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THE UNIVERSITY OF ALBERTA

STRATIGRAPHY AND SEDIMENTOLOGY OF THE ORDOVICIAN AND SILURIAN BRODEUR GROUP, NORTHERN BRODEUR PENINSULA, BAFFIN ISLAND

by

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APPENDICES

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XIII. APPENDIX 1, ABBREVIATIONS USED IN THE APPENDICES

aa.......as above
abu......above the base of the unit
ang......angular
approx...approximate(ly)
argil....argillaceous
asl......above sealevel
brach....brachiopod
c........coarse(ly)
calc.....calcareous
carb.....carbonaceous
CL.......cathodoluminescence
com......common(ly)
dk.......dark
est......estimated
f........fine(ly)
FLUOR....fluorescence
frag.....fragment
FS.......fresh surface
gn.......grain(ed)
in.......intense
indet....indeterminate
interxyn.intercrystalline
lam......laminated, lamination
litho....lithology
ls.......limestone
lt.......light
m........medium
mat'l....material
max......maximum
min......minimum
misc.....miscellaneous
NA.......not applicable
prom.....prominent
rd.......round(ed)
rec......recessive
rep......representative
sbang....subangular
sbrd.....subrounded
sl.......slightly
st.......strong
tr.......trace
trans....transitional
vdk......very dark
vlt......very light
vst......very strong
vwk......very weak
w/.......with
wk.......weak
wrt......with respect to
WS.......weathered surface
xdk......extremely dark
xlt......extremely light
xtal.....crystal
xyn......crystalline

XIV. APPENDIX 2, FIELD AND SAMPLE DESCRIPTIONS FOR SECTIONS MEASURED ON BRODEUR PENINSULA, 1982-84.

A. FIELD AND SAMPLE DESCRIPTIONS FOR SECTION A, MEASURED IN 1982.

Locality: East end Jackson Inlet.
Latitude: 73°16'50"N.
Longitude: 88°34'00"W.

Base of section Aa, within member B of the Baillarge Formation, approx 10 m asl.
Section Aa start is at lat. 73°16'46" N, long. 88°34'18"W. Section Aa end is at lat. 73°16' 53"N, long. 88°34'12"W. Base camp for sections A, B and C is at lat. 73°17'19"N long. 88°35'24"W.

UNIT A1. *Sub-section Aa, west side of stream cut valley.*
Weathering Character prom. Colour WS m brownish grey. FS lt brownish grey. Basal Contact not exposed. Bedding Character lams <1 cm thick, dk, locally very vuggy w/ spar lining vugs, planar to wavy bedding. Composition calc dolostone, xtal size 0.2 mm. A1 Sample/Slab Description (of main litho). fresh surface colour; wk vlt yellowish-orange (10YR 7/2), misc; fractured to sl brecciated, 100% favositid coral, corallites filled w/ 20μm spar, corallites in part collapsed, vugs to 10 mm. Rock Name: favositid microsparite/sparite crackle breccia. A1a Sample/Slab Description (of spar in vugs), fresh surface colour; wk vlt orangy-yellow (10YR 7/2) and grey (10YR 5/0), 70% microspar, 20% spar, vugs lined w/ spar to 0.4 mm in size, sample porosity includes 10% vugs to 10 mm in size, some of of which resemble gypsum xtal moulds. Rock Name: vuggy microsparite.
BASE OF UNIT 0.00 TOP OF UNIT 0.30 THICKNESS 0.30

UNIT A2. Weathering Character prom. Colour WS chalky lt grey. FS lt-m grey. Basal Contact abrupt planar to wavy. Bedding Character planar lam. Bed/Lam Thickness min 1 cm, max 4 cm, mode 2 cm. Composition ls, xtal size 0.1 mm. Sedimentary Structures low- and high-amplitude stylolites. A2 Sample/Slab Description (of main litho) fresh surface colour; wk vlt yellowish-orange (10YR 7/2), sedimentary structures; low-amplitude wavy stylolites, composition; 90% f xyn (25μm) spar, possibly 10% gypsum xtal moulds and interxyn porosity. CL-30% bright orange luminescent clasts. Rock Name: sl brecciated f xyn sparite.
BASE OF UNIT 0.30 TOP OF UNIT 0.70 THICKNESS 0.40

UNIT A3. Weathering Character prom. Colour WS and FS m brownish grey. Basal Contact abrupt, planar, sl wavy. Bedding Character 2 mm to 1 cm planar lams. Composition ls w/ 100μm xtal size. Sedimentary Structures minor high-amplitude stylolites. Misc well indurated. A3 Sample/Slab/Peel Description fresh surface colour; wk lt olive-brown (2.5Y 6/2), sedimentary structures; minor stylolites w/ amplitudes to 2 mm, misc; 1 vertical fracture filled w/ f-m xyn spar, xtal size increases toward center of vein, composition; 20% microspar, 75% f xyn spar (mode 20μm), 5% interxyn porosity. Rock Name: microsparitic f xyn sparite.
BASE OF UNIT 0.70 TOP OF UNIT 0.80 THICKNESS 0.10

UNIT A4. Weathering Character prom. Colour WS chalky grey. FS m brownish grey. Basal Contact abrupt, wavy. Bedding Character wavy. Bed/Lam Thickness min 3 cm, max 7 cm, mode 5 cm. Composition ls w/ 100μm xtal size, high porosity and permeability. Sedimentary Structures tr low-amplitude stylolites. A4 Sample/Slab Description fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; tr low-amplitude stylolites accentuated by brown residual film, composition; 2% carb specks, 5% interxyn sample porosity, 45% spar, 50% microspar. Rock Name: sparry (f xyn) microsparite.
BASE OF UNIT 0.80 TOP OF UNIT 1.10 THICKNESS 0.30

UNIT A5. Weathering Character prom. Colour WS and FS vlt grey. Basal Contact abrupt, irregular. Bedding Character planar lam (1 mm thick) to sl wavy, locally brecciated in lower 10 cm. Bed/Lam Thickness min 1 mm, max 4 cm, mode 2 cm. Composition ls w/ 0.3 mm xtal size, very porous and permeable.
BASE OF UNIT 1.10 TOP OF UNIT 1.60 THICKNESS 0.50

UNIT A6. Weathering Character prom. Colour WS and FS m grey. Basal Contact abrupt planar. Bedding Character sl wavy. Bed/Lam Thickness min 2 cm, max 5 cm, mode 3.5 cm. Composition microspar, low porosity and permeability. A6 Sample/Slab/Thin Section Description fresh surface colour; wk lt olive-brown (10YR 6/2), composition; 2% dolomite xtals to 100μm, some concentrated along fractures (5% fracture porosity), 93% microspar. CL; non-luminescent except for 5% orange complex multi-zoned luminescent spar between clasts and in fractures. Rock Name: microsparite crackle breccia. Misc extensively fractured.
BASE OF UNIT 1.60 TOP OF UNIT 1.85 THICKNESS 0.25

UNIT A7. Weathering Character semi-rec. Colour WS white to buff, FS lt brownish grey. Basal Contact abrupt, planar. Bedding Character sl wavy, locally brecciated. Bed/Lam Thickness min 2 cm, max 10 cm, mode NA. Composition ls, minor carb partings, gn/xtal size <0.1 mm, low porosity and permeability. A7 Sample/Slab Description fresh surface colour; wk m olive-brown (10YR 5/2), misc; sl brecciated, composition; 5% porosity, 95% f xyn spar. Rock Name: f xyn sparite crackle breccia
BASE OF UNIT 1.85 TOP OF UNIT 2.10 THICKNESS 0.25

UNIT A8. Weathering Character prom, overhanging cliff. Colour WS chalky white to vlt grey, minor buff mottles. FS lt brownish grey. Basal Contact abrupt and very wavy. Bedding Character planar. Bed/Lam Thickness min 3 cm, max 5 cm. Composition ls w/ occasional clast moulds to 1.5 cm long. A8 Sample Description (contains large clast moulds). fresh surface colour; lt olive-brown (10YR 6/3), composition; 95% microspar, 5% porosity. Rock Name: microsparite crackle breccia.
BASE OF UNIT 2.10 TOP OF UNIT 4.85 THICKNESS 2.75

UNIT A9. Weathering Character prom. Colour WS and FS brownish m grey. Basal Contact abrupt, very sl wavy. Bedding Character massive. Composition dolomitic ls, gn/xtal size 0.1-0.2 mm. Sedimentary Structures vertical slickensides. A9 Sample/Slab/Thin Section Description fresh surface colour; overall wk olive brown (10YR 5/2), sedimentary structures; dolomitic patches and stylolites, composition; 40% fossils, consisting of 1% disarticulated brach frags, 29% ossicles, 5% tabular stromatoporoids, 5% favositid corals w/ some corallite walls replaced by dolomite, 1 ostracod frag filled w/ clear spar. 35% microspar, 1% bitumen fills pores, 14% dolomite, mostly m xyn, patches contain white 1 mm-sized dolomite xtals. There are microsparite ghosts in the dolomite xtals (calcified dolomite?), Sample porosity is 10% w/ porosity and permeability higher in the dolomitic patchy areas. CL; non-luminescent. Rock Name: c calcarenite: mottled dolomitic (m-c xyn) ossicle-rich biomicrosparite.
BASE OF UNIT 4.85 TOP OF UNIT 7.85 THICKNESS 3.00

UNIT A10. Weathering Character rec covered interval, tr ostracods along stream.
BASE OF UNIT 7.85 TOP OF UNIT 14.60 THICKNESS 6.75

UNIT A11. *Section Aa, east side of stream.* Weathering Character prom. Colour WS yellowish-brown w/ dk grey lams. FS lt grey w/ m to dk grey lams. Basal Contact covered. Bedding Character wavy to convex-up, thinly lam, 1 mm thick lam, locally brecciated. A 3 cm thick breccia vein extends along bedding. Composition unit is in part a brecciated dolostone, low porosity, clasts are lam dolostone, gn/xtal size <0.1mm, matrix is m grey lam calc dolostone w/ mottled to yellowish-white surface colouration. Sedimentary Structures hummocky to convex-up structures 15 cm high and 8 cm wide, minor high-amplitude stylolites. Misc very well indurated, high density, gives off bitumenous odour when broken. A11a Sample/Slab/Thin Section Description (taken of lower lam dolostone), fresh surface

colour; wk lt olive brown (10YR 6/2) and wk m olive-brown (10YR 5/2), sedimentary structures; low-angle cross-lam, minor low-amplitude stylolites, composition; detrital carbonate, dolomite xtals were originally clastic gns, tr fractures filled w/ 1% calcite, 84% f xyn dolomite in 1-2 mm thick undulatory lams, defined by change of xtal size, 15% interxyn sample porosity. CL; 2% scattered bright luminescent spar. Rock Name: m-c dololutite (detrital). A11b Sample/Slab Description (of breccia, matrix consists of lam calc dolostone), fresh surface colour; vwk m olive-brown (10YR 5/1) sedimentary structures; sparite breccia w/ pervasive high-amplitude stylolites w/ considerable black residue, some stylolites fractured, composition; 95% spar, 5% porosity. Rock Name: f xyn sparite mosaic breccia. A11c Sample/Slab Description (vuggy ls from talus), fresh surface colour; dk grey clasts (10YR 4/0) and st xlt yellowish-orange (10YR 8/4) calcite cement, 50% breccia clasts, 25% c xyn spar, misc; calcite cement growing into voids away from clast boundaries, composition; 15% spar, 5% m xyn dolostone , center of one ls clast has been dolomitized (remnant ls rim), 20% porosity (10 % vugs, 10% between xtals), 60% microsparite breccia clasts (larger than 2 mm), size range 2 mm to 42 mm, mode 10 mm. CL; non-luminescent. Rock Name: sparry 'matrix' microsparite 'clast' mosaic breccia.
BASE OF UNIT 14.60 TOP OF UNIT 17.35 THICKNESS 2.75

UNIT A12. Weathering Character prom. Colour WS and FS mottled buff and m grey. Basal Contact trans. Bedding Character wavy, irregular, locally brecciated. Bed Thickness min 4 cm, max 21 cm, mode 10 cm. Composition dolostone, locally brecciated, gn/xtal size 0.1-0.2 mm. Fossils small colonial corals, some overturned, small rynchonellid brachs, numerous on some bedding surfaces, possible poorly preserved ostracods. A12 Sample/Slab/Thin Section Description dolostone, fresh surface colour; wk lt brownish-olive (10YR 6/2), sedimentary structures; minor low-amplitude stylolites, composition; 2% favositid coral frags to 20 mm, some corallites filled w/ calcite and tr chert, 10% patches of c xyn spar, some areas of poikilotopic spar cements dolomite xtals in ostracods, tr bitumen fills interxyn pores, 2% chert, 71% f xyn dolomite, dolomite in ostracod shells is larger (150μm), 15% sample porosity. CL; tr orange luminescence. FLUOR; multifold zonation of spar, tr fluorescence along stylolites. Rock Name: sparry f xyn dolostone.

Breccia (Pipe?) Description of Unit A12a. Weathering Character prom to semi-rec. Colour WS white, m dk grey. FS white, lt to m grey, cross cuts unit A12. Composition 1. Clasts-mostly ls up to 0.25 m and 2. Matrix-white, calc, gn/xtal size 0.1 to 0.2 mm.
Breccia description 22 m upstream from A12 fossil locality.
A12a Breccia Description: Colour WS extensive rusty colouration w/ minor 2 mm wide white veinlets throughout, clasts massive, m brownish grey dolostone, 0.1 to 0.2 mm gn/xtal size. 'Matrix' has dk 1 cm thick m dk grey trans rim (weathering feature?)-numerous brachs. in breccia clasts. Note that this breccia matrix has a coarser gn/xtal size than the last breccia described (A12a) which was more calc. Average clast size 5 cm. Fossils brachs in breccia clasts.
BASE OF UNIT 17.35 TOP OF UNIT 21.35 THICKNESS 4.00

UNIT A13. Weathering Character prom to semi-rec. Colour WS m brownish grey. FS buff alternating w/ lt to m brownish grey. Basal Contact abrupt planar. Bedding Character planar and sl wavy, lams 3 mm thick but thickness changes laterally, alternating buff to m brownish grey. Bed/Lam Thickness min 15 cm, max 30 cm, mode 25 cm. Composition calc dolostone, locally brecciated, gn/xtal size <0.1 mm, tr calcite-filled vugs, tr white calcite lines joints and fracture surfaces about 0.1 mm wide. Sedimentary Structures high-amplitude stylolites. Misc very well indurated (not well fractured). A13 Sample/Slab Description (taken at base, note lams), f xyn dolostone, fresh surface colour; wk lt olive-brown (10YR 6/2) and wk dk olive-brown (10YR 4/2), sedimentary structures; low amplitude stylolites, wavy lams (1-2 mm thick), misc; small high angle reverse fault w/ 2 mm apparent offset, lined w/ m-c xyn dolomite, tr bitumen, 85% f xyn dolomite (40μm mode), 15% sample porosity. CL; minor orange luminescent spar veinlets. Rock Name: f xyn dolostone.

Description of laterally equivalent breccia. Cross-cutting subvertical breccia pipe, min 1 m wide crosses A12/13 contact and extends down into covered interval at base of cliff. Pipe branches along bedding plane and separates bedding by at least a metre. Minor 1 mm wide calc veinlets throughout breccia. Clasts made up largely of unit A13. Clasts min 5 mm, max 10 cm, mode 1 to 2 cm. A few clasts are tilted at right angles to bedding, most are rd. Minor vugs (clast moulds). Note: Breccia at this site contains more locally derived clasts but upstream more foreign rock is encountered. Breccia clasts increase in size upstream (A11/12 breccia). Subvertical microfaults occur in unit A13. Fossils numerous ostracods and minor brachs in talus in this area.
BASE OF UNIT 21.35 TOP OF UNIT 22.15 THICKNESS 0.80

UNIT A14. *The base of Aa14 is correlative w/ the base of Ab25.* Weathering Character semi-prom. Colour WS m yellowish brown, dull metallic blue stain on ostracods (phosphatic?). FS lt brownish w/ small white sparry patches. Basal Contact trans over 0.2 m. Bedding Character irregular planar, beds more massive at base, locally brecciated, mottle texture 5 cm below ostracod horizon. Bed/Lam Thickness min 4 cm, max 20 cm, mode 15 cm. Middle of unit is thinner bedded (min 4 cm, max 15 cm, mode 7 cm). Composition dolostone, mottled, gn size 0.2 mm, composition of middle of unit same, possible dead oil stain, thin lams, bitumenous odour. Sedimentary Structures occasional 1 cm long vugs, lined w/ 0.5 mm euhedral spar. Slickensides at unit top trend 35°, dip 86°, Fossils ostracod-rich bedding planes 2.2 m abu. In middle of unit ostracods in place, all the same type w/ punctate shells, well preserved, long axes trend 65°. Misc well indurated. A14 Sample/Slab/Thin Section Description calc dolostone, fresh surface colour; overall wk m olive-brown (10YR 5/2), composition; 11% ostracod ghosts, one 5 mm-sized biconvex ostracod, shell microstructure is vf xyn, 10% vc xyn spar and tr pyrite fills ostracod, misc; spar veinlets, 79% f-m xyn (mode 50 μm) dolomite, 10% interxyn sample porosity. CL; non-luminescent except for 3% bright orange luminescent calcite overgrowths. FLUOR; dolomite in veinlets and vugs shows multi-fold zonation. Rock Name: sparry ostracodal f-m xyn dolostone.
BASE OF UNIT 22.15 TOP OF UNIT 25.90 THICKNESS 3.75

UNIT A15. Weathering Character semi-prom. Colour WS yellowish-brown to dk grey. FS lt brown w/ lt calc patches. Basal Contact trans over 5 cm, mostly planar, sl wavy. Bedding Character planar to sl wavy (1 cm amplitude by 5 cm wavelength), locally brecciated. Bed/Lam Thickness in the middle of the unit convex-up structures occur that are 20 cm long by 5 cm high. Composition dolostone, vugs 10 cm long elongate subparallel to bedding, lined w/ 1 cm-sized euhedral spar. Bedding deflects above and below vug, calcite lines joint surfaces. Sedimentary Structures hummocky structures are 30 cm above the wavy lams. Misc a local breccia occurs upstream in this unit. A15 Sample/Slab/Thin Section Description (taken from middle of the unit), fresh surface colour; interlam wk lt olive-brown (10YR 6/2) and wk m olive-brown (10YR 5/2), sedimentary structures; mm-cm thick stylo-lam, misc; 1% organic matter, composition; 94% f xyn anhedral dolomite xtals, 5% interxyn sample porosity, misc; tr vertical calcite veinlets of variable xtal size. CL; non-luminescent except for tr veinlets. FLUOR; irregular and patchy. Rock Name: f xyn dolostone.
BASE OF UNIT 25.90 TOP OF UNIT 27.15 THICKNESS 1.25

UNIT A16. Weathering Character semi-rec. Colour WS chalky cream, alternating w/ dk grey. FS lt to m grey. Basal Contact planar w/ minor convex-up columnar structures. Bedding Character convex-up structures, locally brecciated. Bed/Lam Thickness min 1 cm, max 4 cm, mode 2.5-3.0 cm, lam thicknesses do not change appreciably laterally (1-2 mm thick). Composition calc dolostone w/ 0.1 mm gn size, thin dk carb lams, possible argil content. Sedimentary Structures convex-up club-like structures (up to 7 cm wide and 15 cm high), irregular (5 cm wide, 2 cm amplitude), convex-up structures grade laterally to breccia. Convex-up structures are lam and follow contour of column. Lenticular vugs occur in the central basal portion of each convex-up structure, lined w/ spar, laminae between columns are draped and locally brecciated. A16 Sample/Slab/Thin Section Description (convex-up structures at top of unit) fresh surface colour; interlam wk vlt olive-brown (10YR 7/2) and

wk m olive-brown (10YR 5/2), sedimentary structures; irregular wavy dolostone, sl brecciated, stylolitic, composition; c xyn spar w/ curved xtal boundaries fills & lines large vugs, 3% spar, 92% f-m xyn dolomite & minor calcified dolomite, 5% vugs between clasts to 2 cm in size. CL; spar w/ bright orange luminescent overgrowths line vugs, dolomite is bright red luminescent. FLUOR; very com zoned spar fills vugs. Rock Name: sl sparry f-m xyn dolostone crackle breccia.
BASE OF UNIT 27.15 TOP OF UNIT 27.30 THICKNESS 0.15

UNIT A17. Weathering Character semi-prom. Colour WS lt to m grey overall w/ yellowish-brown mottles, some of which are elongate subparallel to bedding. Yellowish-brown stain lines joints, bedding planes and vugs. FS lt grey w/ m dk grey lams. Basal Contact 7 by 1 cm hummocky to convex-up structures. Bedding Character sl wavy w/ localized convex-up structures, locally brecciated. Convex-up structure 60 cm abu is 7 cm wide, minor breccia around its base. Bed/Lam Thickness min 1 cm, max 10 cm, mode 4 cm. Composition dominantly dolostone w/ minor calcite filling vugs and veinlets, gn/xtal size 0.1 to 0.2 mm. Vugs occur at base of hummocky and convex-up structures. These have a planar base, a convex-up upper surface and are lined w/ spar. A17 Sample/Slab Description (taken near the middle of the unit), fresh surface colour; wk m olive-brown (10YR 5/2) and vwk dk olive-brown (10YR 4/1), sedimentary structures; deformation, composition; 1% spar lines fractures, 2% carb lams, 92% m xyn dolomite, 5% porosity. Rock Name: f-m xyn dolostone crackle breccia.
BASE OF UNIT 27.30 TOP OF UNIT 28.30 THICKNESS 1.00

UNIT A18. (similar to unit A16), Weathering Character semi-rec. Basal Contact sl wavy, mainly planar. Bedding Character mosaic breccia. Composition dolostone breccia. A18 Sample/Slab Description f xyn dolostone mosaic breccia, fresh surface colour; wk vlt yellowish-orange (10YR 7/2) and wk m olive-brown (10YR 5/2), sedimentary structures; hummocky and convex-up structures, deformed and brecciated, composition; 3% m xyn spar fills pore-space between breccia clasts, 5% interxyn porosity, some dolostone clasts are porous and permeable, 32% f xyn dolomite 'matrix', 60% f xyn dolostone breccia clasts ranging from 2 to 50 mm, max size 50 mm, modal size 30 mm. Rock Name: f xyn dolostone 'clast' and 'matrix' mosaic breccia.
BASE OF UNIT 28.30 TOP OF UNIT 28.40 THICKNESS 0.10

UNIT A19. Weathering Character semi-rec. Colour WS lt yellowish buff, alternating w/ brown. FS lt grey alternating w/ m grey. Basal Contact irregular hummocky. Bedding Character planar, locally brecciated. Bed/Lam Thickness min 0.5 cm, max 4 cm, mode 1 cm. Base of A19 has 5 mm thick lams, middle and upper parts have thinner 1 mm thick lams. Composition dolostone, fairly permeable, gn/xtal size 0.1 mm. Sedimentary Structures hummocky structures occur in lower lams. A19 Sample/Slab/Thin Section Description (taken from middle of unit), sl calc f xyn dolostone, in part breccia, fresh surface colour; mottled lt olive brown (10YR 6/3) and wk m olive-brown (10YR 5/2), sedimentary structures; vugs to 5 cm in size lined or filled w/ c to vc spar, 1% isolated spheroidal ooids (0.4 mm diameter), thin dk brown carb films define lam, misc; brecciation and deformation, composition; 2% c xyn spar in fractures and vugs, 88% m xyn dolomite, calcified dolomite com, irregular xtal boundaries, 5% interxyn sample porosity and 5% vugs. CL; spar w/ bright orange-luminescent overgrowths on non-luminescent cores, dolomite is non-luminescent. FLUOR; white fluorescent and zoned dolomite fills vugs, fractures fluoresce white. Rock Name: m xyn dolostone.
BASE OF UNIT 28.40 TOP OF UNIT 28.80 THICKNESS 0.40

UNIT A20. Weathering Character semi-prom, 100% exposure on either side of stream cut valley. Colour WS white m grey w/ buff mottling. FS lt brownish, dk grey thin lams. Basal Contact abrupt, planar to sl wavy. Bedding Character planar irregular, dominantly planar. Bed/Lam Thickness min 1 m, max 2 m, mode 1.5 m. Composition dolostone w/ minor calcite veins, 2 cm-sized vugs lined w/ spar. Sedimentary Structures mottles. Fossils very small

favositid corals and a few gastropods scattered in the basal beds. A20a Sample/Slab/Thin Section Description (taken from the base of the unit), calc dolostone, 10% ossicles, fresh surface colour; wk lt olive brown (10YR 6/2), sedimentary structures; low-amplitude stylolites, spar veinlets, composition; 5% porosity, 80% m xyn dolomite, tr ostracods, 15% spar, echinoderm ossicles are composed of intergrown dolospar. CL; dull orange-red luminescent dolomite. Rock Name: mottled sparry echinodermal m xyn dolostone.
BASE OF UNIT 28.80 TOP OF UNIT 34.55 THICKNESS 5.75

Top of unit A20 is the contact between member B of the Baillarge Formation and the lower member of the Cape Crauford Formation.

UNIT A21. Weathering Character semi-prom to prom. Colour WS m brown. FS lt to m brown. Basal Contact abrupt, planar. Bedding Character planar irregular. Bed/Lam Thickness as for unit A20, unlam. Composition calc dolostone, high porosity and permeability, 0.1-0.2 mm gn/xtal size. Fossils 3 m abu there is a 0.5 m fossiliferous exposure containing colonial corals and very abundant poorly preserved strophomenid brachs (30%) to 2 cm in size, some broken valves, one orthoconic cephalopod 6 cm long by 1 cm wide, some fossils may be silicified. A21 Sample Description (many samples collected), 40% smooth to f plicate moderately preserved strophic biconvex brachs to 20 mm long, straight hinge line, 1 mm thick shell, most are disarticulated pedicle valves, all the same type of brach valves (dolomitic), 50% dolomite w/ 0.05 mm modal xtal size, 10% porosity. Rock Name: brachiopodal f xyn dolostone.
BASE OF UNIT 34.55 TOP OF UNIT 42.55 THICKNESS 8.00

UNIT A22. Weathering Character rec covered interval.
BASE OF UNIT 42.55 TOP OF UNIT 45.55 THICKNESS 3.00

UNIT A23. Weathering Character prom ledge-former. Colour WS buff. FS m brown w/ dk grey patches, jagged differential weathering on surface is due to pervasive high-amplitude stylolitization. Basal Contact covered. Bedding Character planar irregular. Bed/Lam Thickness very thickly bedded (2.5 m). Composition dolostone w/ low porosity, gn/xtal size 0.2 mm. Chert nodules (rarely white) are scattered and isolated. Umbrella-shaped vugs (planar bottom, convex-up top) 13 cm long, 2 cm high. Sedimentary Structures chert nodules, high-amplitude stylolites and vugs. A23 Sample/Slab/Thin Section Description (taken from the base of the unit), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; high-amplitude stylolites, vugs to 2 cm lined w/ white 1.5 mm dolospar, filled w/ 1 mm-sized spar, altered dolomitic mottles, microfractures filled w/ clear dolospar, tr silicification, composition; tr ossicles, 5% porosity, 3% spar cement between dolomite rhombs, spar is in part poikilotopic, 1% dk brown μm-sized inclusions, 92% dolomite is highly variable in size, xtals have cloudy cores, in part poikilotopic (large xtals contain smaller dolomite rhombs), clear dolomite overgrowths on original cloudy inclusion-rich rhombs. CL; rare bright orange luminescent calcite between non-luminescent dolomite xtals. FLUOR; vaguely zoned dolomite. Rock Name: sl sparry m xyn dolostone.
BASE OF UNIT 45.55 TOP OF UNIT 48.05 THICKNESS 2.50

UNIT A24. Weathering Character semi-prom. Colour WS lt brown w/ m to dk yellowish brown patches. FS m grey. Basal Contact abrupt, planar. Bedding Character wavy, irregular. Bed Thickness min 1 cm, max 5 cm, mode 2-3 cm. Composition ls, gn/xtal size 0.2 mm. Sedimentary Structures preferred orientation of orthocone long axes in bedding plane. Fossils orthocones (40 mm long, 5 mm in diameter), numerous on bedding plane, two preferred orientations at 120 and 180°, tr high-spired gastropod 3 cm long. Sample A24(conodonts) taken. A24 Sample/Slab/Thin Section Description (rep litho sample), fresh surface colour; wk lt olive-brown (10YR 6/2), composition; 25% ostracods, most articulated, valves mainly dissolved, minor gastropods and 2 small orthocones, 10% microspar and 20% m xyn spar, 40% f to m xyn dolomite, some rhombs in microspar-rich areas have microspar ghosts, therefore dolomite formed after the microspar. However, there is also some corrosion and replacement

of dolomite rhombs by microspar, 5% interxyn sample porosity. One articulated ostracod is lined w/ dolospar and filled w/ spar. CL; very dull orange-red luminescent dolomite and non-luminescent calcite. There are rare small vugs filled w/ orange luminescent dull multiple zoned spar. Rock Name: calc ostracodal f-to-m xyn dolostone. A24a Sample/Slab Description (contains orthocones), fresh surface colour; overall vwk m olive-brown (10YR 5/1), sedimentary structures; low angle cross-lam, composition; center of orthocones is f xyn spar, wall is dolomite. Some orthocone centers, however are m xyn dolomite. 30% small orthocones, septa visible in one specimen, shell is 200μm thick and consists of m xyn white dolomite. 40% microspar and spar, misc; scattered dolomite rhombs in microspar. Pore-filling dolomite is white. Dolomite occurs as scattered m xyn rhombs (25%), 100-300μm in size, ranging to 600μm in places as scattered dolomite rhombs in microspar, misc; where orthocones are replaced by dolomite microspar fills the orthocone, where there is no relic of a shell there is c xyn dolomite, 5% interxyn porosity. Rock Name: dolomitic (m xyn) ostracodal biomicrosparite.
BASE OF UNIT 48.05 TOP OF UNIT 48.45 THICKNESS 0.40

Section Ab, the base of Ab25 is correlative with the base of Aa14. Section Ab starts at lat. 73°16'56"N, long. 88°34'24"W and ends at lat. 73°17'1"N, long. 88°34'30"W. The start of section Ab is about 300 m north of the end of section Aa. Measured thicknesses are reset to 0 at the base of A25.

UNIT A25. Weathering Character semi-prom. Colour WS mottled lt yellowish brown, m brownish grey. FS m grey, sl brownish. Basal Contact obscured by stream. Bedding Character planar irregular. Bed/Lam Thickness min 2 cm, max 10 cm, mode 5 cm. Composition dolostone, gn/xtal size 0.2-0.3 mm mode, vugs to 3 cm, shaped like brach valve moulds, infilled w/ 5 mm dolomite xtals. Sedimentary Structures low-amplitude stylolites. Fossils strophomenid brachs com, disarticulated, poorly preserved, cup corals overturned w/ long axes oriented NS. A25 Sample/Slab/Thin Section Description (taken from top of unit), fresh surface colour; wk m olive-brown (10YR 5/2) and vwk dk olive-brown (10YR 4/1), sedimentary structures; low-amplitude stylolites are accentuated by thin brown carb films, composition; 10% brachs, thin disarticulated and articulated valves 300μm thick are replaced by white dolomite, brachs to 20 mm in size. 80% f xyn dolomite rhombs w/ irregular interlocking contacts, 10% interxyn sample porosity, irregular patchy, porous and permeable areas to 20 mm in size. CL; non-luminescent. Rock Name: mottled brachiopodal f xyn dolostone.
BASE OF UNIT 0.00 TOP OF UNIT 2.25 THICKNESS 2.25

UNIT A26. Weathering Character semi-prom. Colour WS and FS interlam lt brownish grey w/ m grey (lams avg a thickness of 2 mm but range to 5 mm). Basal Contact planar, very sl wavy, trans over 10 cm. Bedding Character planar. Bed/Lam Thickness min 2 mm, max 10 cm, mode 5 cm. Composition dolostone, gn/xtal size 0.2 to 0.3 mm, originally may have been a calcarenite, occasional vugs, long axes parallel to bedding, spar lines brach moulds. Fossils poorly preserved brachs. A26 Sample/Slab/Thin Section Description (taken from the middle of the unit), fresh surface colour; wk lt olive-brown (10YR 6/2) and wk m olive-brown (10YR 5/2), composition; 1 echinoderm stem 1 cm long and one ossicle, 2 one cm wide 75μm thick dolomitic disarticulated brach valves, 3% spar in vugs below the brachs and other pore space, 1% bitumen and clay(?) fills pores, 86% f-to-m xyn dolomite xtals have an anhedral interlocking texture, 10% interxyn porosity. CL; 1% bright orange-luminescent overgrowths on non-luminescent spar xtal cores in vugs, dolomite is non-luminescent. FLUOR; 1% zoned dolomite fills vugs. Rock Name: sl sparry f to m xyn dolostone.
BASE OF UNIT 2.25 TOP OF UNIT 2.50 THICKNESS 0.25

UNIT A27. Weathering Character semi-rec. Colour WS and FS m grey w/ lt brownish grey lams 1 cm thick. Basal Contact trans over 10 cm, planar, very sl wavy. Bedding Character irregular. Bed/Lam Thickness min 3 cm, max 7 cm, mode 5 cm. Composition dolostone, gn/xtal size 0.2 mm. Sedimentary Structures irregular bedding, low-ampitude stylolites. Fossils

strophomenid brachs, generally convex-up, many disarticulated, poorly preserved. A27 Sample/Slab/Thin Section Description fresh surface colour-interbedded wk lt olive-brown (10YR 6/2) and vwk m olive-brown (10YR 5/1), sedimentary structures; minor low-amplitude stylolites, misc; minor fractures lined w/ white dolospar which is in turn lined w/ spar, 1% stylolitic residue, composition; 85% brachs (dolomitic) to 15 mm, thin shelled, biconvex, both articulated and disarticulated, 1% spar lines dolomite-lined fractures, 4% dolomite is m xyn and has irregular contacts, 10% interxyn porosity. CL; a clotted very dull red luminescence. Rock Name: mottled brachiopodal f to m xyn dolostone.
BASE OF UNIT 2.50 TOP OF UNIT 2.80 THICKNESS 0.30

UNIT A28. Weathering Character semi-prom. Colour WS and FS brownish grey w/ white specks. Basal Contact sl wavy, 1 cm amplitude. Bedding Character wavy. Bed/Lam Thickness min 2 cm, max 17 cm, mode 8 cm. Composition dolostone, tr calc, gn/xtal size 0.5 mm. Sedimentary Structures simple low-angle cross-stratification, low-amplitude stylolites. A28 Sample/Slab/Thin Section Description fresh surface colour; wk m olive-brown (10YR 5/2) w/ vwk xlt yellowish-orange (10YR 8/1) patches, sedimentary structures; minor low-amplitude wispy stylolites, misc; 1 mm wide veinlets filled w/ spar, composition; 30% ostracods consist of dolospar, are 5 mm in size, shell microstructure is replaced by dolomite, some ghosts of valves remain, 5% c xyn spar fills space between dolomite rhombs, bitumen blobs 8 mm long are fractured and filled w/ spar veins, misc; tr pyrite, 60% m xyn dolomite, irregular sutured and planar contacts, 5% interxyn porosity. CL; both luminescent and non-luminescent varieties of calcite and dolomite. Rock Name: sl sparry ostracodal m xyn dolostone.
BASE OF UNIT 2.80 TOP OF UNIT 3.55 THICKNESS 0.75

UNIT A29. Weathering Character semi-prom. Colour WS yellowish brown. FS m brownish grey 2 mm thick lams interstratified w/ dk grey 0.5 mm thick lams. Basal Contact wavy (10 cm wavelength, 1 cm amplitude). Bedding Character wavy in three dimensions (5 cm wavelength, 8 mm amplitude). Bed/Lam Thickness min 1 cm, max 2 cm, lams follow wavy bedding (see FS desc). Composition dominantly dolostone breccia w/ minor calcitic 'matrix', 'clasts' of lam rock, gn/xtal size 0.2 mm. Sedimentary Structures hummocky bedding. A29 Sample/Slab Description fresh surface colour; wk m olive-brown (10YR 5/2) vwk dk olive-brown (10YR 4/1), composition; 2% bitumen fills fractures, microfaults, 93% f xyn dolomite, 50μm modal xtal size, 5% interxyn porosity. Rock Name: f xyn dolostone, locally brecciated sparry ('matrix') dolostone.
BASE OF UNIT 3.55 TOP OF UNIT 3.60 THICKNESS 0.05

UNIT A30. Weathering Character prom. Colour WS and FS buff w/ lt yellowish brown patches, covered w/ black lichen. Basal Contact planar irregular. Bedding Character planar irregular to mottled. Bed/Lam Thickness min 3 cm, max 10 cm, mode 5 cm, unlam. Composition dolostone w/ minor calc patches, gn/xtal size avg 0.3 to 0.5 mm, minor subvertical calcite veinlets. Sedimentary Structures low-amplitude stylolites. Misc fault, fault plane strikes 120°, dips subvertically. Black lichen covers calcite veinlets and calcite lines joint surfaces. A30 Sample/Slab/Thin Section Description (taken from lower part of unit), fresh surface colour; wk lt olive brown (10YR 6/2) and vwk dk olive-brown (10YR 4/1), sedimentary structures; wispy laterally discontinuous stylolites are accentuated by dk brown residual film, composition; 5% ossicles , 3% m to c xyn spar, 1% bitumen, 86% m xyn dolomite w/ irregularly sutured contacts, in places small euhedral dolomite rhombs occur within larger dolomite xtals, 5% interxyn porosity. CL; 1% vug-filling spar has bright orange-luminescent overgrowths on non-luminescent cores. Dolomite luminesces a uniform very dull orange-red. Rock Name: ossicle-bearing m xyn dolostone, locally brecciated.
BASE OF UNIT 3.60 TOP OF UNIT 5.85 THICKNESS 2.25

UNIT A31. Weathering Character semi-prom. Colour WS very sl brownish m grey. FS very sl brownish lt to m grey. Basal Contact trans. Bedding Character wavy irregular, trans to lam in upper 0.5 m. Bed/Lam Thickness min 8 cm, max 30 cm, mode 15 cm. Composition calc dolostone, sl permeable, gn/xtal size 0.2 mm, minor brecciation, 0.2 mm white spar forms

breccia 'matrix', A31 Sample/Slab/Thin Section Description (taken from middle of unit), fresh surface colour; mottled wk m olive-brown (10YR 5/2) and vwk m olive-brown (10YR 5/1), sedimentary structures; wispy stylolites accentuated by dk brown carb films, stylolites truncate some ostracods, composition; 15% 3 mm wide ostracods, mostly articulated, valve walls are 125μm thick, microstructure consists of lamellae parallel to valve walls, 20% microspar, 15% spar, 1% bitumen, 1% chert and tr pyrite replaces ostracod valves, misc; many articulated ostracods are lined w/ m xyn spar and filled w/ cloudy white c xyn cement. A few articulated ostracods are filled entirely w/ dolospar, 43% m xyn lt brown dolomite, dolomitic areas are patchy, dolomite occurs as euhedral rhombs and as anhedral intergrown xtals where it occurs in microspar, minor calcified dolomite, 5% interxyn sample porosity. CL; bright orange luminescent thin overgrowths over wk orange luminescent dolomite cores, calcite is non-luminescent. There are also small areas of high intensity yellow-orange luminescence. Rock Name: mottled calc ostracodal m xyn dolostone.
BASE OF UNIT 5.85 TOP OF UNIT 7.95 THICKNESS 2.10

UNIT A32. Weathering Character semi-prom to prom. Colour WS m dk grey. FS m grey. Basal Contact trans, mostly obscure. Bedding Character planar. Bed/Lam Thickness min 0.5 mm, max 10 cm, mode NA, lams sl wavy, parallel to bedding. Composition ls, possibly argil, intraclasts along bedding planes 0.5 m from top. Intraclasts (dimensions 5 mm by 5 cm) pass laterally into undisturbed bedding. Sedimentary Structures high-amplitude stylolites. Fossils sparse 1 cm high-spired poorly preserved gastropods. Misc flaggy parting, bitumenous odour, calcite veinlets cross-cut and follow bedding. A32a Sample/Slab/Thin Section Description fresh surface colour; vwk dk olive-brown (10YR 4/1), sedimentary structures; vague 1 mm amplitude stylolites accentuated by black carb film, moderately fractured, some fractures are lined w/ bitumen, composition; tr articulated ostracod shells, 70% peloids (composed mainly of microspar have a 50 μm mode, range 25-100μm). 20% spar, 5% m xyn dolomite (75μm mode confined to only a few lams and along fractures, therefore is post-fracturing), 5% interxyn porosity. CL; non-luminescent except for bright orange-luminescent subvertical hairline veinlets. Rock Name: pelsparite. A32b Sample/Slab Description fresh surface colour; vwk dk olive-brown (10YR 4/1), sedimentary structures; none, composition; 54% intraclasts (flat pebble conglomerate), rd pebbles to 95 mm long but only 5 mm wide, are composed of microspar, 5% fossils consist of 1 high-spired gastropod (23 mm high) and many broken gastropod frags, gastropod shell is 700μm thick and consists of m xyn cloudy white dolomite. 10% spar, 1% bitumen, 25% dolomite, modal size is m xyn, occurs preferentially between intraclasts, therefore dolomitization occurred after intraclasts were deposited, voids between intraclasts are lined w/ c xyn cloudy white dolomite and filled w/ spar, 5% porosity between clasts. Rock Name: vc calcirudite; sl fossiliferous dolomitic intrasparite.
BASE OF UNIT 7.95 TOP OF UNIT 11.95 THICKNESS 4.00

The contact between member B of the Baillarge Fm and the lower member of the Cape Crauford Fm occurs between units A32 and A33.

UNIT A33. Weathering Character semi-prom to prom. Colour WS m brownish grey, sl olive green. FS m grey. Basal Contact abrupt planar. Bedding Character massive. Composition biomicrite, 15-20% fossils, occasional rd to sbang intraclasts (4 mm wide by 5 cm long), subparallel to bedding. Fossils large high-spired gastropods to 4 cm and many small gastropods, shells white, probably recrystallized, small favositid corals, orthoconic cephalopods. Sample A33a(conodonts). A33 Sample/Slab/Peel Description (rep litho sample) fresh surface colour; wk dk olive-brown (10YR 4/2), composition; one 40 mm high-spired gastropod, 5% ossicles, 1 cm-sized favositid coral frag. 60% micrite/microspar, 30% f xyn dolomite (50μm mode), 5% interxyn porosity. Rock Name: fossil-bearing dolomitic (f xyn) micritic microsparite.
BASE OF UNIT 11.95 TOP OF UNIT 12.75 THICKNESS 0.80

UNIT A34. Weathering Character semi-prom. Colour WS interlam m & dk brownish grey. FS interlam m and dk grey. Basal Contact abrupt, planar irregular. Bedding Character wavy.

Bed/Lam Thickness min 1 cm, max 5 cm, mode 1.5 cm, mm-sized lams change thickness laterally. Composition ls, a few intraclasts. Sedimentary Structures wavy bedding, low-amplitude stylolites. A34 Sample/Slab/Thin Section Description (from top of unit), fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; low-angle cross-lam, minor low-amplitude (100μm) stylolites, composition; 55% microspar and 35% spar, 5% m xyn dolomite, 125μm, has irregular sutured contacts, 5% interxyn sample porosity. CL; non-luminescent except for bright orange-luminescent subvertical 'hairline' veinlets. Rock Name: c calcilutite (detrital): sl dolomitic sparry microsparite.
BASE OF UNIT 12.75 TOP OF UNIT 13.75 THICKNESS 1.00

UNIT A35. Weathering Character prom to semi-prom. Colour WS m olive grey. FS m grey. Basal Contact abrupt, planar. Bedding Character wavy, irregular. Bed/Lam Thickness min 3 mm, max 5 cm, mode NA. Composition ls w/ 0.2 mm modal gn size, up to 1 mm-sized intraclasts(?). Sedimentary Structures low-amplitude stylolites. Fossils minor poorly preserved solitary corals. A35 Sample/Slab Description fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; minor low amplitude stylolites are accentuated by tr residual brown film, composition; 35% articulated 4 mm long biconvex ostracods (partly dolomitic) are filled w/ microspar. Indeterminate shell frags (15%), in part recrystallized, 45% dolomite, mode 100 μm, scattered dolomite rhombs, 5% interxyn porosity. CL; dull red luminescent dolomite, calcite is non-luminescent. Rock Name: calc ostracodal m xyn dolostone.
BASE OF UNIT 13.75 TOP OF UNIT 13.95 THICKNESS 0.20

UNIT A36. Weathering Character semi-prom. Colour WS interlam m & dk grey. FS interlam m and dk grey. Basal Contact planar. Bedding Character wavy. Bed/Lam Thickness min 1 cm, max 5 cm, mode 1.5 cm. Composition ls, lams vary in thickness laterally, minor intraclasts, vugs. A36 Sample/Slab Description fresh surface colour; m olive-brown (10YR 5/3), sedimentary structures; planar stylolam, brown residue along stylolites, 77% microspar, 10% spar, 1% bitumen, misc; one vug elongate parallel to lam is lined w/ cloudy white c xyn dolomite and filled w/ c xyn spar. 7% dolomite xtals to 150μm are confined to certain lams, 5% interxyn porosity. Rock Name: sl dolomitic/sparry microsparite.
BASE OF UNIT 13.95 TOP OF UNIT 14.15 THICKNESS 0.20

UNIT A37. Weathering Character semi-prom. Colour WS m yellowish brown. FS lt to m grey. Basal Contact abrupt planar. Bedding Character irregular. Bed/Lam Thickness mode 25-30 cm. Composition calc dolostone, gn/xtal size 0.5 mm. Sedimentary Structures m brownish grey, bedded chert nodules 25 cm abu. Second stratified chert nodule zone is 40 cm from base, elongate parallel to bedding, nodule size 7 by 3 cm, 5 by 4 cm, mode 7 cm. Fossils lenticular platy (tabular) corals and possible stromatoporoids, very poorly preserved. A37 Sample/Slab/Thin Section Description fresh surface colour; mottled wk lt olive-brown (10YR 6/2) and wk dk olive-brown (10YR 4/2), composition; 5% favositid coral ghosts and chain(?) corals. One 35 mm long favositid coral frag (3%), tr chain coral frag, 5% ossicles, 5% spar, 10% bitumen, 3% f xyn chert replaces dolomite, misc; brittle bitumen fills interxyn porosity. Dolomite (62%) is m xyn, calc patches of c xyn euhedral dolomite rhombs are surrounded by spar, some c xyn dolomite rhombs enclose smaller dolomite rhombs, 10% interxyn porosity. CL; vwk orange-red luminescent dolomite. Only the largest xtals have an outer orange luminescent rim. Rock Name: bitumenous/fossiliferous m xyn dolostone.
BASE OF UNIT 14.15 TOP OF UNIT 14.95 THICKNESS 0.80

UNIT A38. Weathering Character prom. Colour WS lt brownish grey. FS lt grey. Basal Contact abrupt planar. Bedding Character wavy (3 cm wavelength, 0.5 cm amplitude). Bed/Lam Thickness min 2 cm, max 7 cm, mode 5 cm, laterally continuous lams. Composition ls w/ 0.2-0.3 mm gn size, parting along bedding planes. A38 Sample/Slab/Thin Section Description fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; cross-lam, minor low-amplitude stylolites, 30% microspar, 10% spar, 55% dolomite (100μm-sized xtals) has numerous microspar inclusions, 5% porosity. CL; non-luminescent. Rock Name: c dololutite/vf dolarenite: cross-lam sparry/microsparitic m xyn dolostone.

BASE OF UNIT 14.95 TOP OF UNIT 16.45 THICKNESS 1.50

UNIT A39. Weathering Character prom. Colour WS yellowish brown. FS creamy white. Basal Contact abrupt planar. Bedding Character chaotic (brecciated). Bed/Lam Thickness max 30 cm. Composition ls breccia, gn/xtal size 0.2 mm (matrix), breccia clasts 10 cm long, rd, tr scattered novaculite nodules and clasts 2 cm in diameter, up to 15 cm in size, ellipsoidal to spherical, smaller ones are ang to sbang. Sedimentary Structures breccia clast moulds to 20 mm in size, gypsum xtal moulds. Misc breccia pipes throughout the unit. A39 Sample/Slab/Thin Section Description fresh surface colour; wk vlt yellowish-orange (10YR 7/2), sedimentary structures; massive, misc; sl fractured, brecciated, composition; 2% non-carbonate mat'l, 60% f-m xyn spar, 20% f-m xyn dolomite, size varies w/ spar size, very extensive calcified dolomite, 15% gypsum(?) xtal moulds to 12 mm, 5% interxyn porosity. CL; bright orange luminescent rims on dull orange luminescent calcite (w/ dolomite inclusions). Rock Name: dolomitic f-m xyn sparite 'clast & matrix' breccia. A39a Sample/Slab/Peel Description rubble breccia, buff and grey ang clasts, mode 30 mm, 5% clast mouldic porosity, 20% porosity between clasts. Breccia clast size range is 2 to 50 mm, mode is 10 mm. Breccia clast composition; 20% f-m xyn dolostone clasts, 50% f-m xyn sparite clasts, 30% 'matrix'. Rock Name: variously dolomitic f-m xyn sparite clast rubble breccia. A39b Sample/Slab Description f xyn sparite 'clast & matrix' breccia w/ 20% clast moulds, fresh surface colour; wk xlt yellowish-orange (10YR 8/2), moulds to 8 mm, unfossiliferous. Rock Name: f xyn sparite 'clast' rubble breccia. A39c Sample/Slab/Thin Section Description fresh surface colour; xlt yellowish-orange (10YR 8/3), sedimentary structures; clast moulds to 10 mm, mode 3 mm, massive. 75% f xyn spar, misc; large clast moulds, porosity; 15% clast moulds to 10 mm, mode is 3 mm, 10% interxyn porosity. CL; non-luminescent spar w/ 30% bright orange luminescent overgrowths. Many relict clasts are visible in ordinary light. The 'matrix' is mainly non-luminescent. Rock Name: clast mouldic f xyn sparite 'clast/matrix' breccia.
BASE OF UNIT 16.45 TOP OF UNIT 19.45 THICKNESS 3.00

UNIT A40. Weathering Character semi-prom. Colour WS rusty. FS m grey. Basal Contact convex-up structures (to 0.75 m amplitude) on top of breccia. Bedding Character chaotic breccia at base, more bedded towards top where degree of brecciation decreases. Bed/Lam Thickness approx 30-40 cm near top of the unit, still brecciated however. Composition calc dolostone contains numerous vugs, clasts near the base have a varied litho, only lam clasts of the overlying mat'l occur. Sedimentary Structures low-amplitude stylolites, convex-up structures and vugs. A40 Sample/Slab Description fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; tr stylolites lined w/ bitumen. composition; 65% f-m xyn spar, 5% brown residue, tr pyrite xtals 25μm in size, 5% m-c xyn dolomite, 15% vugs to 17 mm, 10% interxyn porosity. Rock Name: sl dolomitic f-m xyn sparite.
BASE OF UNIT 19.45 TOP OF UNIT 22.85 THICKNESS 3.40

UNIT A41. Weathering Character semi-rec. Colour WS buff to yellowish brown. FS m brown to grey. Basal Contact obscured by scree. Bedding Character dominantly planar, locally wavy (30 cm wavelength). Bed/Lam Thickness min 20 cm, max 40 cm, mode 30 cm, alternating 1 mm lt and dk lams. Composition dolostone, 0.3 mm gn/xtal size. A41 Sample/Slab Description fresh surface colour; 8 cm wk lt olive-brown (10YR 6/2) and wk m olive-brown (10YR 5/2), misc; 50 μm thick f xyn spar veinlets, 15% intraclasts to 15 mm long by 2 mm wide, 5% f xyn spar, 70% dolomite, 10% interxyn porosity. Rock Name: sl sparry intraclastic m xyn dolostone.
BASE OF UNIT 22.85 TOP OF UNIT 25.85 THICKNESS 3.00

UNIT A42. Weathering Character semi-prom. Two interbedded lithologies (70%A, 30%B).

Litho A. Colour WS lt grey. FS m brownish grey. Basal Contact abrupt, planar. Bedding Character planar, laterally continuous. Bed/Lam Thickness min 6 cm, max 20 cm, mode 10 cm. Composition ls. A42a Sample Description 95% f xyn sparite w/ 5% porosity, minor carb films, fresh surface colour; wk dk olive-brown (10YR 4/2).

Litho B. Colour WS lt brownish grey. FS m brownish grey. Bed/Lam Thickness min 1 cm, max 5 cm, mode 3 cm. Composition ls. Sedimentary Structures low-angle cross-lam. Sample A42 (conodonts). A42b Sample/Slab Description (rep litho sample), fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; low angle cross-lam and mm lam, composition; 90% f xyn spar, 10% porosity. Rock Name: low-angle cross-lam m-c calcilutite.
BASE OF UNIT 25.85 TOP OF UNIT 28.35 THICKNESS 2.50

UNIT A43. Weathering Character semi-prom. Colour WS m yellowish brown (rust coloured). FS m grey, trans over 5 cm. Basal Contact abrupt, planar. Bedding Character planar, very sl wavy. Bed/Lam Thickness min 3 cm, max 6 cm, mode 4 cm. Composition ls. Sedimentary Structures wavy lams, convex-up structures and high-amplitude stylolites. A43 Sample/Slab Description (taken from base of unit), fresh surface colour; wk lt olive brown (10YR 6/2) and wk m olive-brown (10YR 5/2), sedimentary structures; high-amplitude stylolites and convex-up structures, misc; tr quartz concentrated along stylolites, composition; 87% f xyn spar, tr chert, 3% m-c xyn dolomite, concentrated along stylolites, 10% porosity. Rock Name: sl dolomitic f xyn sparite.
BASE OF UNIT 28.35 TOP OF UNIT 29.15 THICKNESS 0.80

UNIT A44. Weathering Character prom. Colour WS m yellowish-brown. FS lt to m grey. Basal Contact trans. Bedding Character planar, extremely fractured, difficult to distinguish bedding. Bed/Lam Thickness 20 cm. Composition ls w/ 0.2 mm gn/xtal size, novaculite nodule 8 cm by 4 cm, elongate parallel to bedding, also dk grey chert. Sedimentary Structures stylolites form local lens-shaped bodies 40 cm long, 3 cm thick at base of unit. A44 Sample/Slab Description (taken near base of unit), fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; massive, composition; 5% shell frags, 90% f xyn spar, 5% interxyn sample porosity. Rock Name: shell frag-bearing f-xyn sparite.
BASE OF UNIT 29.15 TOP OF UNIT 34.15 THICKNESS 5.00

UNIT A45. Weathering Character semi-rec. Colour WS whitish grey to buff. FS lt to m grey. Basal Contact abrupt, planar. Bedding Character planar, faintly lam. Bed/Lam Thickness min 1 cm, max 2 cm, mode 1.5 cm. Composition ls, becomes more fractured towards top of unit. Sedimentary Structures locally kink-folded. A45 Sample/Slab Description (taken from top of unit), fresh surface colour; wk dk olive-brown (10YR 4/2), lams separated by thin black carb film, composition; 2% bitumen fills interxyn pores, 5% interxyn porosity, 93% microspar. Rock Name: microsparite.
BASE OF UNIT 34.15 TOP OF UNIT 40.65 THICKNESS 6.50

UNIT A46. Weathering Character semi-rec. Colour WS and FS buff to lt grey. Basal Contact trans over 5 cm, planar. Bedding Character dominantly planar, wavy in places. Bed/Lam Thickness min 2 cm, max 17 cm, mode 6 cm. Composition calc dolostone, vf gn/xtal size. A46 Sample/Slab Description fresh surface colour; interlam wk vlt yellowish-orange (10YR 7/2) and vwk m olive-brown (10YR 5/1), sedimentary structures; low-angle cross-lam (1 cm high sets), composition; 67% intraclasts to 5 mm by 0.2 mm in size, consisting of 5% spar and 55% f xyn dolomite, 8% m to c xyn spar, 15% bitumen fills interxyn pores and is segregated into bitumenous-rich and poor lams, tr pyrite, m-c dolarenite, 10% interxyn porosity. Rock Name: bitumenous intrasparite.
BASE OF UNIT 40.65 TOP OF UNIT 41.65 THICKNESS 1.00

UNIT A47. *Section Ab47(at 42 m) is correlative w/ the base of Ac48.*
Weathering Character very prom, cavernous weathering. Colour WS buff. FS lt grey. Basal Contact trans over 10 cm, planar, locally flexured. Bedding Character rubble breccia. Composition breccia (clasts 20 cm to 1 m, generally large clasts are rd, questionable breccia within a breccia in places, small clasts more ang). The 'clasts' are generally all lam ls and the 'matrix' is calc as well. Sedimentary Structures vugs. A47 Sample/Slab/Thin section Description fresh surface colour; vwk yellowish-orange (10YR 7/1), sedimentary structures; laterally discontinuous stylolites are accentuated by dk brown residue, 2% quartz replaces

clasts or fills clast moulds. Clasts consist of 53% microspar, 15% microspar 'matrix', 10% f xyn spar, 2% quartz replacing or filling clast moulds, some quartz replaces gypsum(?), 15% clast moulds, generally <1 cm in size, 5% interxyn porosity. Breccia clasts range from 2 to 27 mm in size and have a 5 mm mode. CL; thin bright orange-luminescent calcite overgrowths on very dull orange luminescent spar cores. The overgrowths occur only on those sides adjacent to pore space e.g., calcite lining vugs. Rock Name: sparry microsparite 'clast' microsparite 'matrix' rubble breccia.
BASE OF UNIT 41.65 TOP OF UNIT 49.15 THICKNESS 7.50

UNIT A48. *Sub-section Ac. Start Ac at lat. 73°17'16"N, long. 88°34'10"W. Section Ac end lat. 73°17'21" N, long. 88°34'30"W. Section Ac start is 550 m north of the end of section Ab. The base of Ac48 is correlative w/ Ab47(at 42 m) and Ad63 (at 19m). Cumulative thicknesses are recorded starting at zero at the base of A48.*

Weathering Character semi-prom. Colour WS yellow brownish m grey. FS uniform m grey. Basal Contact convex-up (20 cm wide) structures. Bedding Character planar, locally contorted and brecciated. Bed/Lam Thickness min 2 cm, max 5 cm, mode 3 cm. Composition ls w/ 0.2 mm gn/xtal size, local inversely graded breccia is trans upward from crackle to mosaic breccia, est 30% porosity between clasts. Approx 3 cm modal clast size 30 cm abu. Sedimentary Structures 0.8 cm thick lams, m grey unit, alternating w/ 1 mm lt brownish grey lams, vugs 4.5 by 1 cm, elongate parallel to bedding, lined w/ 5 mm-sized spar. Misc flaggy parting. A48 Sample/Slab/Thin Section Description fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; lam, m to c xyn spar, 2% dk brown mat'l, 80% m xyn dolomite cemented by 8% spar, 10% interxyn porosity. Rock Name: c dololutite/vf dolarenite (clastic); sparry f-m xyn dolostone.
BASE OF UNIT 0.00 TOP OF UNIT 1.00 THICKNESS 1.00

UNIT A49. Weathering Character prom, massive cliff former. Colour WS chalky white w/ local m yellowish brown surface stain. FS m lt grey. Basal Contact abrupt, convex-up structures. Bedding Character inversely graded rubble breccia, clasts 1-2 cm, ang to sbang, highly irregularly shaped, unoriented clast long axes. Composition ls breccia, 1 m abu the clast size increases significantly. In the upper part of the unit (top 0.5 m), matrix occurs as for lower part. It differs by containing large ang clasts, min size 20 by 15 cm, up to 2.5 by 0.3 m. All clasts are ang and have the same appearance as those in unit A48. Dip of all imbricated clasts is 15 to 20°N. At least 8 clasts occur in a distance of 50 m along the exposure, all w/ the same imbrication. A few of the clasts have been deformed. Sedimentary Structures high-amplitude stylolites at the base, contorted clasts, coated gns, vugs. A49 Sample/Slab/Thin Section Description (taken near base of unit), fresh surface colour; wk vlt yellowish-orange (10YR 7/2), sedimentary structures; breccia, clast boundaries are very poorly defined, mode is 15 mm, tr stylolites, composition; 69% m xyn spar w/ irregular intergrown xtal boundaries, misc; tr quartz pseudomorphs after gypsum(?), 1% carb mat'l, 30% interxyn and clast (gypsum xtal?) mouldic porosity. CL; 3% thin bright orange-luminescent calcite overgrowths on spar. Rock Name: f xyn sparite clast breccia. A49b Sample/Slab/Thin Section Description fresh surface colour; lt olive brown (10YR 6/3), sedimentary structures; coated clasts to 20 mm in size consist of interlam m-to-c xyn spar (40%) and m xyn dolostone (30%), f xyn dolomite w/ extensive calcified dolomite mainly contained in m xyn spar rhombs, minor needle-shaped dolomite xtals have grown outward from spar rhombs (recent growth?), minor chalcedony, 30% interxyn porosity (some very porous lams contain coated clasts). CL; non-luminescent except for overgrowths of orange-luminescent calcite. FLUOR; most of the spar in this sample displays complex multi-fold zonation. Rock Name: coated clast sparitic m xyn dolosparite.
BASE OF UNIT 1.00 TOP OF UNIT 3.00 THICKNESS 2.00

UNIT A50. Weathering Character prom. Colour WS chalky white w/ local m yellowish brown surface staining. FS m-lt grey. Basal Contact abrupt, planar to convex-up. Bedding Character breccia. Composition breccia, 70% framework, 30% matrix. Sedimentary Structures;

low-amplitude stylolites, vugs. A50a Sample/Slab Description (taken from a dolostone clast), fresh surface colour; lt olive brown (10YR 6/3), composition; 5% m xyn spar, 10% interxyn porosity, 85% f-m xyn dolomite. Rock Name: sl sparry f-m xyn dolostone clast. A50b Sample/Slab/Thin Section Description (taken from a dolostone clast), fresh surface colour; mottled overall lt olive brown (10YR 6/3), sedimentary structures; tr wispy stylolites are accentuated by thin carb films, misc; segregated patchy areas of f and m xyn dolospar, original vugs(?) lined w/ white cloudy m xyn dolomite xtals, filled w/ m xyn spar, composition; 5% f-m xyn spar some of which is poikilotopic and contains small dolomite xtals, 3% residue along wispy stylolites, 82% anhedral intergrown m xyn dolomite, minor calcified dolomite as replaced dolomite edges, most is sl brown, 10% sample porosity includes 5% gypsum(?) xtal moulds to 5 mm. CL; a non-luminescent clotted dull texture, 2% bright orange-luminescent overgrowths on calcite. Rock Name: mottled sl sparry (m xyn) m xyn dolostone breccia clast.
BASE OF UNIT 3.00 TOP OF UNIT 18.00 THICKNESS 13.00

UNIT A51. Weathering Character semi-rec. Colour WS lt brownish grey. FS m grey. Basal Contact abrupt planar. Bedding Character planar, but contains a bedding plane step fault, unit is flexed upward, flaggy parting along bedding. Bed/Lam Thickness <1 cm to 2 cm max. Composition ls, gn size <1 mm. A51 Sample/Slab Description (taken from flexured area), fresh surface colour; vwk dk olive-brown (10YR 4/1), sedimentary structures and composition; interlam vf and f gn calcarenite, lam thickness 5 mm, misc; bitumen lines 1 mm wide subvertical fractures that are filled w/ m xyn spar, 10% interxyn/intergranular porosity. Rock Name: interlam vf and f calcarenite.
BASE OF UNIT 18.00 TOP OF UNIT 20.00 THICKNESS 2.00

UNIT A52. Weathering Character prom. Colour WS lt grey w/ yellowish brown patches. FS lt to m grey. Basal Contact abrupt, planar. Bedding Character rubble breccia. Composition breccia, clasts are composed of ls, gn/xtal size <1 mm, clasts are the same litho as A51 (35 by 20 cm). Clasts are ang and randomly oriented in breccia, large clasts occur about 2 m abu, inversely graded wrt clast size. However a few rare 25 cm square clasts occur immediately above the A51/52 contact. Large imbricated clasts as in the underlying units were not observed. Sedimentary Structures high-amplitude stylolites and vugs. A52 Sample/Slab/Thin Section Description (taken near base of unit), fresh surface colour; overall wk lt olive-brown (10YR 6/2), sedimentary structures; high-amplitude stylolites accentuated by thin brown film, composition; 78% spar, xtal boundaries irregular and intergrown, m xyn spar lines vugs, 2% opaques, 10% gypsum(?) xtal moulds to 4 mm, 10% interxyn porosity. 60% of breccia clasts are larger than 2 mm, composed of spar, ang to sbrd, clasts-min 2 mm, max-16 mm, mode 5 mm, 'matrix' is sparite. CL; 30% 'clasts' in which spar (non-luminescent) has bright luminescent overgrowths. Rock Name: f-m xyn sparite 'clast & matrix' rubble breccia.
BASE OF UNIT 20.00 TOP OF UNIT 24.50 THICKNESS 4.50

UNIT A53. *Sub-section Ad start is 400 m north of the end of section Ac. Section Ad (units 53 to 64) starts at lat. 73° 17'34"N, long. 88°34'18"W and ends at lat. 73°17'46"N, long. 88°34'33"W.* Weathering Character semi-prom to prom, 1 sq m exposure. Colour WS and FS overall m grey w/ dk grey to black wavy streaks in bedding. Basal Contact covered. Bedding Character wavy, irregular, locally brecciated. Bed/Lam Thickness min 3 cm, max 17 cm, mode 8 cm, carb lams irregularly spaced, 1 to 5 mm thick. Composition dolostone w/ 0.1 to 0.2 mm gn/xtal size, lam, carb parting. Misc very well indurated. Thicknesses recorded start at zero at the base of unit A53. A53 Sample/Slab/Thin Section Description fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; lams of variable thickness, composition; 3% carb mat'l ranges to 5% in some lams where stylolites are com and have truncated dolomite rhombs. Most non-carb mat'l is between dolomite xtals, 77% f xyn dolomite, most xtals are anhedral and intergrown, 20% interxyn porosity. CL; one in part dull luminescent spar veinlet, dolomite is non-luminescent. Rock Name: inclusion-rich f xyn dolostone.
BASE OF UNIT 0.00 TOP OF UNIT 0.60 THICKNESS 0.60

UNIT A53a. (local rubble breccia, 5 m-wide pipe). Weathering Character prom. Colour WS m grey w/ irregular yellowish brown streaks and patches. 'Clasts' are m grey. FS (of clast) lt to m grey, 'matrix' lt buff grey. Basal Contact abrupt. Bedding Character rubble breccia. Breccia Thickness 3 m high by 5 m wide. Composition clasts 70-80% dolostone, matrix 20-30% consisting of 0.5 mm-sized mat'l, clast size mode is 0.75 m. Sedimentary Structures subvertical slickensides on fault plane.
BASE OF UNIT 0.0 TOP OF UNIT 3.0 THICKNESS 3.0

UNIT A54. Weathering Character semi-prom to prom, 1 sq m exposure. Colour WS and FS overall lt-m grey. Basal Contact abrupt, sl wavy. Bedding Character unbedded, but crenulated sections 3 to 4 cm long. Composition dolostone, vugs 3 by 5 cm, elongate parallel to unit contacts. Misc extremely well indurated. A54 Sample/Slab Description fresh surface colour; lt olive-brown (10YR 6/3), composition; 35% f-c xyn spar, 40% m xyn dolomite, tr favositid coral, 25% porosity. Rock Name: sparry m xyn dolostone.
BASE OF UNIT 0.60 TOP OF UNIT 1.50 THICKNESS 0.90

UNIT A55. Weathering Character prom. Colour WS m brownish grey, alternating lt and dk bands (1-2 cm). FS lt to m brownish grey w/ white patches. Basal Contact indet due to brecciation, probably abrupt, irregular. Bedding Character planar lam, locally crackle breccia. Bed/Lam Thickness min 10 cm, max 20 cm, lam in upper m is f lam (1 mm), upper lams are laterally continuous and do not vary in thickness. Thicker lams occur in the middle of the unit where they are laterally continuous over 1 m but vary in thickness. Composition dolostone, w/ small sparry patches, gn/xtal size in upper m of unit is 0.2 mm, xtal size is <1mm in middle of unit, locally brecciated. Sedimentary Structures planar lam. A55 Sample/Slab/Thin Section Description fresh surface colour; mottled wk xlt yellowish orange (10YR 8/2) to wk lt olive-brown (10YR 6/2), misc; sl fractured, veins filled w/ spar, composition; one small orthocone frag 3 mm wide by 7 mm long, tr ossicles, 5% microspar/spar fills fractures, 85% m xyn dolomite (100 μm mode), cloudy white to lt brown, some dolomite rhombs are cemented by spar, 10% sample porosity. CL; very dull luminescent dolomite, calcite is non-luminescent. Rock Name: mottled sparry m xyn dolostone breccia clast (from local crackle breccia).
BASE OF UNIT 1.50 TOP OF UNIT 2.25 THICKNESS 0.75

UNIT A56. Weathering Character prom. Colour WS and FS m brownish grey. Basal Contact abrupt, disrupted. Bedding Character planar, irregular, locally brecciated. Bed/Lam Thickness min 10 cm, max 20 cm, mode NA. Composition dolostone, gn/xtal size 0.4 mm. Sedimentary Structures planar bedding, less well developed than unit A55, almost massive in the upper part. A56 Sample/Slab/Thin Section Description fresh surface colour; wk vlt yellowish-orange (10YR 7/2), sedimentary structures; vague lam, composition; 5% ossicles, 1% spar, 4% dispersed brown matter, 65% dolomite, 25% porosity. CL; bright orange-luminescent zoned calcite, dolomite is non-luminescent. Rock Name: f-m xyn dolostone.
BASE OF UNIT 2.25 TOP OF UNIT 2.55 THICKNESS 0.30

UNIT A57. Weathering Character prom. Colour WS and FS m yellow brownish grey. Also m and dk grey irregularly spaced beds. Basal Contact abrupt, planar. Bedding Character planar, laterally continuous, locally brecciated, thickness of lams is laterally the same over at least a metre. Wavy lams occur just over the basal contact. Bed/Lam Thickness min 3 cm, max 15 cm, mode 10 cm. Dk lams 30% (1 mm thick), lt lams 70% (3 mm thick). Composition dolostone 0.1 to 0.2 mm xtal size, locally brecciated. Sedimentary Structures minor deformation on upper contact. A57 Sample/Slab/Thin Section Description fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; vague lams, composition; 1% spar, 2% non-carbonate mat'l, 82% dolomite, bimodal 20μm and 150 μm dolomite, some poikilotopic calcite contains 20μm euhedral dolomite rhombs, mostly anhedral intergrown xtals, 15% interxyn porosity. CL; non-luminescent except for bright luminescent calcite overgrowths on spar filling vugs. Rock Name: f-m and m xyn dolostone.
BASE OF UNIT 2.55 TOP OF UNIT 3.15 THICKNESS 0.60

UNIT A58. Weathering Character semi-rec, undercuts above unit by about 1 m. Colour WS and FS lt to m brownish grey. Basal Contact covered. Bedding Character planar, laterally continuous, locally brecciated. Bed/Lam Thickness min 3 cm, max 30 cm, mode NA, laterally discontinuous dk lams. Some lenticular lenses 6 cm by 5 mm. Composition dolostone, gn/xtal size 0.2 mm, locally brecciated. Sedimentary Structures tr stylolites, planar lams. Breccia pipes extend from unit A59 down into this unit. Misc A58 contains numerous subvertical micro-faults, exposure is cross-cut by horizontal and vertical breccia pipes 20 cm wide. Subvertical spar veinlets 1 mm wide cross-cut sequence and breccia, clasts 70%, matrix 30%, clasts to 25 cm long by 10 cm wide. A58 Sample/Slab Description (taken from middle of unit), fresh surface colour; interbedded wk lt olive-brown (10YR 6/2) and vwk m olive-brown (10YR 5/1), sedimentary structures; planar lams, misc; lams/beds fractured, composition; detrital(?) carbonate, 4% spar fills vertical fractures and occurs along lams, 81% f xyn dolomite (50μm modal size), 15% interxyn porosity. Rock Name: sl sparry f xyn detrital(?) dolostone crackle breccia.
BASE OF UNIT 3.15 TOP OF UNIT 4.65 THICKNESS 1.50

UNIT A59. Weathering Character prom. Colour WS and FS alternating m and dk beds. Basal Contact abrupt, planar, sl undulatory due to local deformation. Bedding Character planar, irregular, locally brecciated. Bed/Lam Thickness min 1 cm, max 10 cm, mode NA, varies laterally due to stylolitization. Thick beds are generally unlam, thin beds have mm-sized lams. Composition ls, gn size <0.1 mm, locally brecciated. Sedimentary Structures minor high-amplitude stylolites. Misc numerous joints spaced 1 to 10 cm apart, strike 100° w/ vertical dip. A59 Sample/Slab Description (rep litho sample), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; planar lam to low-angle cross-lam, composition; 70% microspar, 25% spar, 5% interxyn porosity. Rock Name: sparry microsparite. Sample A59 (conodonts) taken.
BASE OF UNIT 4.65 TOP OF UNIT 7.95 THICKNESS 3.30

UNIT A60. Weathering Character prom. Colour WS m yellow-brownish grey and m grey, irregular patches of both. FS m brownish grey. Basal Contact abrupt, planar. Bedding Character locally crackle breccia. Bed/Lam Thickness NA. Composition ls, gn/xtal size <0.1 mm, microxyn. Sedimentary Structures high-amplitude stylolites and slickensided breccia clasts com. A60 Sample Description (rep litho sample), fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; slickensided breccia clasts, planar lam but folded in places, breccia clasts min size 2 mm, max 40 mm, mode 20 mm, tr 1 mm-sized gypsum(?) xtal moulds, composition; 90% microspar, 5% interclast porosity and 5% interxyn porosity. Rock Name: microsparite 'clast' crackle breccia Sample A60 (conodonts) taken.
BASE OF UNIT 7.95 TOP OF UNIT 14.45 THICKNESS 6.50

UNIT A61. Weathering Character rec covered interval.
BASE OF UNIT 14.45 TOP OF UNIT 18.45 THICKNESS 4.00

UNIT A62. Weathering Character rec (2 sq m exposure), cavernous weathering. Colour WS and FS m brownish grey. Basal Contact covered. Bedding Character planar irregular, locally brecciated. Bed/Lam Thickness min 1 cm, max 3 cm, mode 2 cm, lam. Composition sparry dolostone breccia. Sedimentary Structures lam.

Unit A62a. Weathering Character rec. Colour WS lt to m grey w/ yellowish brown patches. Grey clasts in yellowish brown matrix. FS aa but lighter in colour. Composition calc dolostone breccia, 75% clasts, 25% matrix, ang clasts 1 to 2 cm. Sedimentary Structures high- and low-ampitude stylolites. A62a Sample/Slab Description fresh surface colour; vwk xlt yellowish orange (10YR 8/1) clasts in a wk vlt yellowish orange (10YR 7/2) 'matrix', sedimentary structures; breccia, composition; breccia, 40% spar, 45% f-m xyn dolomite, clasts are very porous f xyn dolosparite, 10% clast-mouldic and fracture porosity and 5% interxyn porosity, breccia clasts are buff and have a high porosity/permeability, min clast size 2 mm, max 25 mm, mode 7 mm. Rock Name: sparry dolostone clast rubble breccia.

BASE OF UNIT 18.45 TOP OF UNIT 18.75 THICKNESS 0.30

UNIT A63. *Section Ad63 (at 19 m) is correlative w/ the base of Ac48 and Ab47 (at 42 m).* Weathering Character prom. Colour WS m brownish grey w/ irregular yellowish brown patches. FS m brownish grey. Basal Contact abrupt, planar irregular. Bedding Character stratified rubble breccia. Composition breccia, all ls clasts, 0.5 m abu clasts are 3 to 10 cm in size, inversely graded. Clasts become 3 to 4 m and larger, subequant, sbang, randomly oriented, clasts microsparitic. Basal 0.5 m is normally graded, clast size 3 cm at base and grades up to 1 cm-sized clasts. At 1.75 m abu large clasts (1 by 2 m) occur that are elongate parallel to bedding. About 8 m abu there are 4 m long 'clasts' composed of calc dolostone, sbrd, surface extensively leached, 'matrix' contains vugs. Sedimentary Structures high- and low-amplitude stylolites. Fossils 15 m abu ossicles and a solitary coral were observed in a ls clast. A63 Sample/Slab/Thin Section Description (rep litho sample), fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; low-amplitude stylolites, misc; clasts ang-sbang, composition; 5% pyrite as pore-lining between clasts, occurs between spar and dolospar cement, therefore is the last generation cement. A63 of m calcirudite-sized breccia, 10% f-to-m xyn spar, size increases away from clast boundaries, 5% dolomite occurs between clasts and contains spar, therefore is post spar, 20% interclast and 5% porosity in clasts, 55% breccia clasts (larger than 2 mm) are mainly microsparite/f xyn sparite, breccia clast min size is 2 mm, max size 30 mm, modal size 10 mm. CL; calcite between breccia clasts is bright orange luminescent and zoned, com w/ non-luminescent cores. The breccia clasts themselves are non-luminescent. FLUOR; clasts are variously fluorescent and some spar between clasts is zoned. Rock Name: sl dolomitic/sl pyritic/microsparite/f xyn sparite 'clast' rubble breccia. A63a Sample/Slab/Peel Description (coral), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; high-amplitude stylolites throughout, misc; unoriented sample, composition; 100% solitary upright coral, 25 mm max diameter corallum, 2% ossicles, 1 favositid coral 30 mm in size, corallites 1 mm across, hexagonal in shape, 50% peloids (consisting of microspar) ranging 0.1 to 0.3 mm in size w/ a 0.2 mm size mode, 20% microspar, 30% spar (10% fills corallites), 5% porosity. Rock Name: favositid coral filled w/ pelsparite.
BASE OF UNIT 18.75 TOP OF UNIT 39.25 THICKNESS 20.50
There is an anticline-syncline pair w/ a flat-lying undisturbed unit near the top of the hill.

UNIT A64. Interbedded buff and m brownish grey beds. Weathering Character prom (excellent exposure). A64a are the lt coloured beds, A64b the dk beds. Basal Contact highly irregular.

Unit A64A description. Weathering Character prom. Colour WS buff to lt brownish grey. FS lt brown. Bedding Character planar, locally brecciated. Bed/Lam Thickness min 1 cm, max 10 cm, mode 5 cm, faint lam, total thickness 35 cm. Composition calc dolostone w/ microxyn gn size <0.1 mm, minor local brecciation. Sedimentary Structures high-amplitude stylolites. Misc strong bitumenous odour upon striking. A64A Sample/Slab Description (taken 3 m abu), fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; planar lam, 4 mm amplitude stylolites, composition; 30% spar, 60% microspar, 10% porosity, misc; extensively fractured w/ 2% fracture porosity. Rock Name: sparry microsparite.

Unit A64B description. Weathering Character prom. Colour WS and FS m brownish grey w/ yellowish brown minor irregular patches. FS aa but no yellowish brown patches. Basal Contact trans. Sedimentary Structures intraclasts of unit A in unit B near the base, minor faults occur near top of the unit. Composition dominantly ls, 50 to 60% intraclasts of unit A occur at the base, w/ matrix comprising the remainder. Intraclasts are 2 cm by 5 mm in size, elongate parallel to bedding. This grades up into intraclastic zone in middle of unit, intraclasts are a m brownish grey, subequant, sbrd, avg size is 3 mm, A64B Sample/Slab/Thin Section Description (two samples) fresh surface colour; vwk olive-brown (10YR 5/1), sedimentary structures; ooids w/ pressure solution contacts, basal contact of ooids is wavy and cuts across bedding, composition; 35% rd intraclasts, (min 1 mm, max 20 mm, mode 2.5 mm), are

mainly composed of microspar/f xyn spar, some contain ooids the vast majority of which are superficial w/ radial fibrous structure, 40% superficial ooids, mode is 0.5 mm, many are multi-nucleated types, fossils; 1 broken brach(?) frag, 10% microspar, 10% f xyn spar, size of xtals increase away from gn boundaries, therefore pore-filling cement, 5% interxyn porosity, misc; stylolites and pressure solution along ooid boundaries, CL; non-luminescent except for minor spar overgrowths between coated gns and minor spar along veinlets. Rock Name: sparry/intraclastic/coated gn microsparite.
BASE OF UNIT 39.25 TOP OF UNIT 58.75 THICKNESS 19.50

UNIT A65. Weathering Character semi-rec. Colour WS buff to chalky white. FS lt brownish grey. Basal Contact abrupt to trans depending on locality, planar to convex-up, trans upward to thinner beds. Bedding Character dominantly planar, locally mosaic to rubble breccia. Bed/Lam Thickness min 1 cm, max 7 cm, mode 4 cm, faint lams, laterally continuous over 0.5 m. Composition dolostone, gn size <0.05 mm (dolomicrite?), m grey chert nodules 3 cm by 5 cm are concentrated in upper 0.3 m of bed. Sedimentary Structures vugs. Fossils some questionable rd m grey very poorly preserved fossils. A65 Sample/Slab/Thin Section Description (rep litho sample), fresh surface colour; vwk lt olive-brown (10YR 6/1), sedimentary structures; planar lams, minor low-amplitude stylolites, composition; 3% ostracods, mode 0.25 mm, most ostracod valves dissolved, however articulated ones are filled w/ spar. 65% microspar, 25% spar, 1% opaques. 1% chert is present between vein-lining spar, misc; fractures filled w/ f to m xyn spar, 5% fracture porosity. CL; non-luminescent except for tr hairline veinlets lined w/ spar that has bright luminescent overgrowths. Rock Name: sl ostracodal/sparry microsparite. A65a Sample Description m grey chert nodule 20 mm thick by 70 mm long in buff f xyn dolostone. A65b Sample/Slab Description fresh surface colour; calc dolostone is wk vlt yellowish-orange (10YR 7/2) and ls is vwk dk olive-brown (10YR 4/1), sedimentary structures; low-amplitude stylolites, planar lam, misc; dolomitization is fracture controlled because subvertical fractures sometimes separate calc dolostone on one side from ls on the other side, even though they are both part of the same bed, composition; 30% ostracods 250-300μm (dolomitic) in size, biconvex and spherical, most are articulated, shell is dolomitic. 20% microspar, 20% spar, 25% f xyn dolomite (50μm mode), textural relationships; dolomite is of 2 types-one is lt brown and inclusion-rich, the other is cloudy white, both occur together. Some spar fills space between euhedral dolomite xtals and may be the same generation as the vein-filling spar. Dolomitization is probably post-stylolitization, post-fracturing, 5% interxyn porosity. Rock Name: microsparitic/f xyn sparitic ostracodal f-xyn dolostone. A65c Sample/Slab Description (of breccia), fresh surface colour; wk vlt yellowish orange (10YR 7/2), composition; 15% vug-lining spar between clasts, xtals to 1 mm, size increases away from clast boundaries, tr bitumen between clasts, 10% interclast porosity, vugs to 5 mm, 70% clasts are larger than 2 mm in size, min clast size-2 mm, max size-30 mm, modal size-10 mm, clasts are composed of microsparite. Rock Name: f-c calcirudite-sized breccia; microsparite 'clast'-sparite 'matrix' mosaic to rubble breccia.
BASE OF UNIT 58.75 TOP OF UNIT 60.05 THICKNESS 1.30

UNIT A66. Weathering Character prom. Colour WS lt brownish grey w/ abundant yellowish brown weathering patches, covered w/ black lichen. FS m brownish grey. Basal Contact abrupt, wavy. Bedding Character massive, locally brecciated. Bed/Lam Thickness 1 m, lams are crenulated, wavy structures. Composition calc dolostone crackle breccia, minor irregular carb parting, gn size 0.1 mm. Sedimentary Structures high-amplitude stylolites. Misc very well indurated. A66 Sample/Slab Description (taken near the base of the unit), fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; high-amplitude stylolites in a stylo-breccia, composition; 15% f-c xyn spar, 5% chert to 2 mm, mode 0.5 mm, bounded by stylolites, 1% black residue along stylolites, 5% porosity between xtals and clasts, 74% microspar/f xyn spar. Rock Name: microsparitic f xyn sparite crackle (stylo-) breccia.
BASE OF UNIT 60.05 TOP OF UNIT 61.05 THICKNESS 1.00

UNIT A67. Weathering Character semi-prom, 3 sq m exposure. Colour WS lt grey w/ yellowish brown irregular patches. FS lt grey. Basal Contact covered. Bedding Character

rubble breccia. Composition breccia, 60% lam calc dolostone sbrd, subequant, randomly oriented clasts (10 cm modal size), 20% clast moulds, 40% calc 'matrix'.
BASE OF UNIT 61.05 TOP OF UNIT 66.05 THICKNESS 5.00

UNIT A68. Weathering Character semi-rec. Colour WS yellowish brown. FS chalky white. Basal Contact obscured. Bedding Character planar bedded, sl wavy near upper contact. Bed/Lam Thickness min 1 cm, max 3 cm, mode 2 cm, faint lams. Composition microxyn ls.
BASE OF UNIT 66.05 TOP OF UNIT 66.45 THICKNESS 0.40

UNIT A69. Weathering Character semi-prom. Colour WS and FS lt grey. Basal Contact abrupt, wavy. Bedding Character stratified breccia. Composition stratified calc dolostone rubble breccia, clast size 2 cm, sbrd, long axes are parallel to bedding. Sedimentary Structures high-amplitude stylolites. Misc very well indurated. A69 Sample/Slab/Thin Section Description fresh surface colour; wk vlt yellowish-orange (10YR 7/2), sedimentary structures; stylolites w/ 2 mm amplitude, composition; 5% interxyn and 5% gypsum(?) xtal mouldic porosity, 90% f xyn spar. CL; non-luminescent except for bright orange-luminescent subvertical veinlets, spar has non-luminescent cores and bright orange luminescent overgrowths. Rock Name: stylolitic f xyn sparite to crackle (stylo-) breccia.
BASE OF UNIT 66.45 TOP OF UNIT 66.75 THICKNESS 0.3

UNIT A70. Weathering Character semi-prom. Colour WS yellowish brown. FS chalky white. Same as A68, only locally brecciated, in part also thicker bedded. Basal Contact abrupt, very regular. Bedding Character planar, locally brecciated. Bed/Lam Thickness min 1 cm, max 3 cm, mode 2 cm, in part thicker bedded, faintly lam. Composition microxyn ls, locally brecciated. Sample A70a(conodonts) taken. A70 Sample/Slab/Thin Section Description (rep litho sample), fresh surface colour; wk vlt yellowish orange (10YR 7/2), misc; minor stylolites and subvertical fractures, composition; 90% f xyn spar, 5% f xyn dolomite (20μm in size), randomly distributed. 5% interxyn porosity. Rock Name: sl dolomitic f xyn sparite.
BASE OF UNIT 66.75 TOP OF UNIT 68.55 THICKNESS 1.80

UNIT A71. Weathering Character semi-prom. Colour WS lt grey w/ yellowish brown patches. FS lt grey. Basal Contact abrupt, wavy irregular. Bedding Character rubble breccia. Composition breccia, 60% clasts, 30% calc matrix, 10% vugs, clast size to 10 cm, long-axes subparallel bedding. Sedimentary Structures low-amplitude stylolites. Misc forms prom ledge of uniform thickness on other side of valley. A71 Sample/Slab/Thin Section Description (taken near base of unit), fresh surface colour; st vlt yellowish-orange (10YR 7/4), sedimentary structures; low-amplitude stylolites, composition; 95% f xyn spar clast breccia, 5% porosity along stylolites and between clasts, 50% breccia clasts larger than 2 mm, range of clast sizes is 2 to 25 mm, mode 8 mm. CL; orange-luminescent and zoned spar (20%) (mainly larger xtals) as veins through non-luminescent breccia clasts and as cement in porous more xyn breccia clasts. Calcite of breccia clasts luminesces a very dull orange and the 'matrix' luminesces bright orange (as overgrowths on non-luminescent cores). Rock Name: f-c calcirudite-sized breccia; f xyn sparite 'clast/matrix' rubble breccia.
BASE OF UNIT 68.55 TOP OF UNIT 69.55 THICKNESS 1.00

UNIT A72. Weathering Character rec covered interval.
BASE OF UNIT 69.55 TOP OF UNIT 70.05 THICKNESS 0.50

UNIT A73. Weathering Character semi-rec. WS and FS buff yellowish brown patches oriented parallel to bedding. Basal Contact covered. Bedding Character small convex-up structures at base pass up to convex-up structures (to 0.75 m wide). Bed/Lam Thickness lams to 1 cm thick, lams of convex-up structures generally 1 mm thick. Composition dolomitic ls. Sedimentary Structures large convex-up structures, slickensides and high-amplitude stylolites. A73 Sample/Slab Description fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; 2 mm amplitude stylolites, slickensides all parallel and developed on folded strata, therefore slickensides associated w/ faulting, composition; 90% f xyn spar, 5% interxyn and

5% gypsum(?) xtal mouldic porosity. Rock Name: f xyn sparite.
BASE OF UNIT 70.05 TOP OF UNIT 71.55 THICKNESS 1.50

UNIT A74. Weathering Character semi-prom. Colour WS lt grey. FS lt grey w/ minor greenish patches (possible malachite staining). Basal Contact abrupt, wavy. Bedding Character mosaic to rubble breccia. Composition dominantly ls breccia, clasts 70%, matrix 30% (possibly calc), minor clast moulds, clasts elongate and parallel to bedding, subequant, sbang, 4 cm max, mode 1 cm, poorly sorted. Sedimentary Structures high-amplitude stylolites. A74 Sample/Slab/Thin Section Description (taken from middle of unit), fresh surface colour; breccia, overall wk vlt yellowish orange (10YR 7/2), sedimentary structures; 3 mm amplitude stylolites, composition; 60% breccia clasts greater than 2 mm in size, clast size range-2 to 30 mm, mode 6 mm, 3% white and 5% clear chert clasts, the rest are f xyn sparite. 5% porosity, 5% microspar 'matrix'. CL; non-luminescent breccia 'clasts', 'matrix' contains non-luminescent spar w/ bright orange-luminescent overgrowths. Rock Name: cherty f xyn sparite 'clast' microsparite 'matrix' mosaic to rubble breccia.
BASE OF UNIT 71.55 TOP OF UNIT 72.25 THICKNESS 0.70

UNIT A75. This unit can be seen across the stream forming part of the interbedded buff and lt grey prom sequence. Both units A64 and A75 are prom. Unit A75 contains the same 2 litho (A and B) as that of unit A64 and in this respect the two units are quite similar. Another zone 1.5 m thick containing hummocky structures occurs 8 m abu. Across the stream the buff beds are thicker in A75 than in A64 and approach 1.5 m in thickness. Bedding Character hummocky.
BASE OF UNIT 72.25 TOP OF UNIT 84.25 THICKNESS 12.00

UNIT A76. Weathering Character rec covered interval with perhaps a small breccia outcrop containing hummocky structures 45-50 cm wide and 25 cm high. Breccia occurs between the hummocks. Bedding Character hummocky.
BASE OF UNIT 84.25 TOP OF UNIT 96.50 THICKNESS 12.25

UNIT A77. Moved upstream 1.8 km north of section Ac start and picked prom unit on the valleys' west side. Section Ad (units 77-87) starts at lat. 73°18'26"N, long. 88°33'00"W, section Ad(units 77-87) ends at lat. 73°8'32"N, long. 88°33'5"W. Units A77 to the breccia form the prom ridge traceable up valley. Start section north of small tributary on west side. Weathering Character semi-rec. WS and FS chalky white. Basal Contact covered. Bedding Character massive, locally contorted (kink folds). Composition calc dolostone, gn/xtal size 0.1 mm. Misc well indurated. A77 Sample/Slab/Thin Section Description (taken from middle of unit), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; massive, composition; 60% peloids (composed of microspar), size mode 200μm, range 100 to 300μm, 20% spar, 20% moulds and vugs to 1 by 6 mm. CL; dull semi-opaque moderate orange luminescent irregularly-shaped 'clots' composed of microspar(?) w/ dull orange-luminescent peloids. Spar between peloids is non-luminescent. FLUOR; lt fluorescent peloids, cement between peloids is non-fluorescent. Rock Name: pelsparite.
BASE OF UNIT 96.50 TOP OF UNIT 97.10 THICKNESS 0.60

UNIT A78. Weathering Character semi-rec. Colour WS m grey. FS lt to m grey. Basal Contact abrupt, planar. Bedding Character planar. Bed/Lam Thickness min 1 cm, max 8 cm, mode 3.5 cm, lams 0.5 to 2 mm, laterally continuous for at least 0.5 m. Composition calc dolostone, probably argil, gn/xtal size <0.1 mm, dolomite xtals to 0.5 mm in size, lt lams, intraclasts to 0.5 mm in size near top of unit. Misc This unit and A77 are both involved in local deformation (kink folds). A78 Sample/Slab/Peel Description fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; wispy discontinuous stylolites, planar lams, composition; 85% microspar, 10% f to c xyn spar, 5% porosity. Rock Name: sparry microsparite.
BASE OF UNIT 97.10 TOP OF UNIT 97.50 THICKNESS 0.40

UNIT A79. Weathering Character semi-prom. WS and FS lt grey. Basal Contact abrupt planar. Bedding Character planar, locally kink folded. Bed/Lam Thickness min 1 cm, max 6 cm, mode 2-3 cm, lt and dk lams 1 to 2 mm thick, laterally continuous over at least 0.5 m. Composition calc dolostone, minor lens-like vugs? lined w/ spar to 2 mm in size. A79 Sample/Slab/Thin Section Description fresh surface colour; overall wk vlt yellowish orange (10YR 7/2), sedimentary structures; low-angle cross-lams, misc; minor fractures, low-angle cross-lam filled w/ spar, composition; 5% spar, 2% pyrite, 83% f xyn dolomite (size mode 30μm), 10% interxyn porosity. CL; non-luminescent spar veinlet. Dull uniform orange-luminescent dolomite xtals. Rock Name: sl sparry f xyn dolostone.
BASE OF UNIT 97.50 TOP OF UNIT 98.00 THICKNESS 0.50

UNIT A80. Weathering Character prom. Colour WS lt to m grey w/ yellowish brown irregular beds parallel to bedding and along joint surfaces. FS lt to m grey. Basal Contact abrupt planar. Bedding Character planar, locally kink-folded. Bed/Lam Thickness min 2 cm, max 20 cm, mode 5 cm, faint 2 mm lam, uniformly thick throughout. Composition dolomitic ls, gn size microxyn, possibly sl argil. A80 Sample/Slab/Thin Section Description (taken from middle of unit), fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; planar lams, misc; many fractures filled w/ f-m xyn spar, composition; 30% micrite, 39% microspar, 10% spar, 1% dispersed pyrite but more concentrated along stylolites, 15% vf-f xyn dolomite, randomly dispersed, 5% interxyn porosity. CL; non-luminescent spar veinlets in a very dull orange luminescent microsparite. Rock Name: sl brecciated sparry/micritic/dolomitic microsparite.
BASE OF UNIT 98.00 TOP OF UNIT 99.25 THICKNESS 1.25

UNIT A81. *The bases of units A81 and A89 are correlative.* Weathering Character semi-rec. WS and FS m grey. Basal Contact abrupt planar. Bedding Character planar. Bed/Lam Thickness beds 15 cm thick, lams laterally continuous. Composition ls, possibly argil. Misc papery bedding plane parting. Sample A81(conodonts) taken, A81 Sample/Slab Description (rep litho sample), fresh surface colour; wk vlt orangy-yellow (10YR 7/2), 60% microspar, 30% randomly dispersed f xyn dolomite, rhomb size mode is 25μm, 10% interxyn porosity. Rock Name: dolomitic (f xyn) microsparite.
BASE OF UNIT 99.25 TOP OF UNIT 99.40 THICKNESS 0.15

UNIT A82. Weathering Character semi-rec. WS and FS m grey. Basal Contact abrupt planar. Bedding Character planar. Bed/Lam Thickness 15 cm, lams laterally continuous and of uniform thickness. Composition ls, chert nodules occur just below upper contact, black chert nodules are 30 cm long (elongate parallel to bedding) and 2 cm thick.
BASE OF UNIT 99.40 TOP OF UNIT 102.20 THICKNESS 1.40

UNIT A83. Weathering Character semi-rec to prom. WS and FS lt to m grey. Basal Contact trans over 20 cm. Bedding Character planar. Bed/Lam Thickness min 2 mm, max 3 cm, mode 1 cm, lams continuous laterally over at least 0.5 m. Composition ls, possibly argil. Misc 30° dip NNW due to local deformation. A83 Sample/Slab Description fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; sl wavy lams, composition; 20% patches of f xyn dolomite consist of 50 μm-sized rhombs, 5% interxyn porosity, 75% microspar. Rock Name: dolomitic (f xyn) microsparite.
BASE OF UNIT 102.20 TOP OF UNIT 103.45 THICKNESS 1.25

UNIT A84. Weathering Character semi-prom to semi-rec. Colour WS lt brownish grey. FS lt grey. Basal Contact trans over 3-4 cm, planar. Bedding Character planar, very sl wavy, lower 0.5 m is thick bedded, middle part of unit has 1 cm thick lams. Bed/Lam Thickness lower zone (min 5 cm, max 9 cm), middle zone (min 1 cm, max 3 cm), upper zone (min 5 cm, max 9 cm). Composition ls, or sl dolomitic ls, gn size approx 0.2 mm. Sedimentary Structures planar bedding, chert nodules to 20 cm (in all zones elongate parallel to bedding), high-amplitude stylolites. Some black chert is lens-shaped in cross-section. A84 Sample/Slab/Thin Section Description (taken from lower more thickly bedded zone, contains

bitumen and carb lams on bedding surfaces), fresh surface colour; wk lt olive-brown (10YR 6/2), stylolites w/ 1 mm amplitude, planar lam, composition; 25% elongate intraclasts (mode 0.2 mm by 3 mm, composed of microspar), 50% peloids, most composed of spar and dolospar but some of microspar (100μm size mode), 20% f xyn spar, tr pyrite, tr silica replaces dolomite, 15% f xyn dolomite (size mode is 30μm), dolospar preferentially occurs in peloids, 5% interxyn porosity. CL; isolated moderate orange luminescent spar (5%) mainly in veins and xtals (some zoned) scattered uniformly throughout the sample. Otherwise, the sample is non-luminescent. Rock Name: dolomitic intraclastic pelsparite. Misc bitumenous odour on striking.
BASE OF UNIT 103.45 TOP OF UNIT 105.45 THICKNESS 2.00

UNIT A85. Weathering Character prom. Colour WS and FS m brownish grey. Basal Contact abrupt wavy (10 cm amplitude w/ 1 m wavelength). Bedding Character indistinct, planar irregular and laterally discontinuous. Bed/Lam Thickness min 4 cm, max 8 cm, mode 5 cm, carb, dk grey. Composition ls w/ uniform gn size <0.1 mm. Sedimentary Structures high-amplitude stylolites. A85 Sample/Slab/Thin Section Description (taken from middle of unit), fresh surface colour; wk lt olive brown (10YR 6/2), sedimentary structures; extensive stylolites w/ up to 2 mm amplitude, composition; 5% intraclasts (mode 0.2 mm by 5 mm), 48% peloids, size mode 100μm, 20% microspar, 15% spar, 2% silica pseudomorphs after carbonate, 15% dolomite (preferentially concentrated along stylolites and in peloids), 10% interxyn porosity. CL; 5% uniformly scattered orange-luminescent overgrowths on non-luminescent cores in porous patches. FLUOR; brown fluorescence along stylolites. Rock Name: sparry/dolomitic intraclastic pelmicrosparite.
BASE OF UNIT 105.45 TOP OF UNIT 106.25 THICKNESS 0.80

UNIT A86. Weathering Character rec covered interval.
BASE OF UNIT 106.25 TOP OF UNIT 109.55 THICKNESS 3.30

UNIT A87. Weathering Character semi-rec. Colour WS buff to lt brownish grey. FS lt brownish grey. Basal Contact covered. Bedding Character hummocky. Bed/Lam Thickness min 0.4 m, max 0.6 m (2 beds only). Composition calc dolostone, m brownish 1 mm-sized irregular patches comprising 15% peloids, are scattered in a microxyn matrix. Sedimentary Structures rd chert nodules (30 cm by 2 cm), nodule curvature parallels convex-up curvature of bed. Main chert nodule occurs 5 cm below the A87/88 contact, high-amplitude stylolites. A87 Sample/Slab/Thin Section Description fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; vague planar lam, composition; 20% f xyn spar as pseudomorphs after gypsum, euhedral outlines of gypsum preserved, 5% interxyn porosity, 75% f xyn dolomite, peloidal texture. CL; composite spar pseudomorphs after gypsum are non-luminescent except for thin bright-orange luminescent coatings. The dolostone luminesces a dull cloudy-red, the intensity of which varies from place to place. Also, there are non-luminescent 'haloes' around the gypsum pseudomorphs and non-luminescent 'ghosts' of former gypsum xtals. Rock Name: sparry vf xyn dolostone.
BASE OF UNIT 109.55 TOP OF UNIT 110.55 THICKNESS 1.00

UNIT A88. Massive breccia pipe forms very high localized outcrop. This is one of the only places along the stream cut where a prom unit crops out in an otherwise covered succession. The unit is a local breccia pipe about 35 m high. Weathering Character prom. Colour WS and FS buff. Basal Contact abrupt, hummocky. Bedding Character trans upward from crackle to rubble breccia, clast size is inversely graded. Composition clasts 80%, matrix 20%, clast-supported, randomly oriented w/ lam at right angles to regional bedding, clast size 10 cm. Chert nodules are dominantly lt grey, some brownish grey, size 30 by 2 cm. 'Matrix' sample of A88 taken 2 m abu, includes some clasts. Misc farther upstream there is less exposure. A88 Sample/Slab/Thin Section Description (two samples taken 2 m abu), fresh surface colour; wk xlt orangy-yellow (2.5Y 8/2), misc; dolomitic areas are very porous, composition; 20% microspar, 15% f to m xyn spar, 50% m xyn dolomite (100 μm mode), 15% interxyn sample porosity, calcified dolomite com. CL; overall dull orange-luminescent

dolomite and non-luminescent spar. Rock Name: sparry microsparitic m xyn dolostone.
BASE OF UNIT 110.55 TOP OF UNIT 145.00 THICKNESS 80.00

UNIT A89. *Sub-section Ae(units A89-100). The bases of A89 and A81 are correlative. Section Ae starts at lat. 73° 17'24"N, long. 88°34'30"W and ends at lat. 73°17'32"N, long. 88°35'36"W. Section Ae starts 2.2 km south of Ad87.* Weathering Character semi-prom, poor exposure, differential weathering of dolostone. Colour WS and FS m brownish grey. Basal Contact covered. Bedding Character indet. Bed/Lam Thickness 0.5 m assumed. Composition microxyn dolomitic ls, dolomite weathers out (1% of rock). Dolomite rhombs are 1 mm-sized multixtal aggregates. A89 Sample/Slab/Thin Section Description (taken just below A89/90 contact), fresh surface colour; wk vlt orangy-yellow (2.5Y 7/2), misc; fractured, composition; 100% stromatoporoid, 85% f to m xyn (minor c xyn) spar, 15% porosity. CL; bright orange-luminescent calcite in recrystallized areas of stromatoporoid and in veins. 'Tissue' of stromatoporoid luminesces dull orange. Rock Name: stromatoporoid filled w/ f-m xyn spar.
BASE OF UNIT 0.00 TOP OF UNIT 0.50 THICKNESS 0.50

UNIT A90. Weathering Character semi-rec. Colour WS lt yellowish brown to buff, irregular weathering surface (byozoans? are a m yellowish brown). FS lt buff. Basal Contact abrupt, planar irregular. Bedding Character planar, irregular. Bed/Lam Thickness min 5 cm, max 15 cm, mode 10 cm. Composition dolomitic ls, gn size 0.2 mm, dolomite weathers out to produce a ragged surface (as in the last unit), 10% dolomite rhombs. Fossils comprise 40% of rock, poorly preserved dolomitic ossicles along bedding plane surfaces, stick bryozoans? intact, straight to sl curved, about 3 mm wide and up to 4 cm long. The bryozoans? are mostly randomly oriented. A90 Sample/Slab/Thin Section Description fresh surface colour; wk vlt orangy yellow (2.5Y 7/2), composition; 30% stick bryozoans (in part dolomitic), 4 mm diameter, 25% f-m xyn spar, 15% vf xyn dolomite (45% dolomite in total), 30% interxyn porosity, mainly in the dolomitic parts, misc; spar is post-dolomite because it is pore-filling and the dolomite is pore-lining. CL; non-luminescent except for 5% orange-luminescent zoned overgrowths (especially vug fillings on non-luminescent spar cores). FLUOR; very com zoned dolomite. Rock Name: sparry (f-m xyn) bryozoan? vf xyn dolostone.
BASE OF UNIT 0.50 TOP OF UNIT 0.80 THICKNESS 0.30

UNIT A91. Weathering Character rec covered interval but is probably similar to A90. Fossils ossicles in clasts throughout the unit.
BASE OF UNIT 0.80 TOP OF UNIT 4.30 THICKNESS 3.50

UNIT A92. This unit is the marker bed traced upstream. Weathering Character prom. Colour WS m brownish grey, in places dk grey due to lichen covering wet surfaces. FS m grey rind (1 mm thick), see litho sample A92. Basal Contact covered. Bedding Character planar, sl irregular. Bed/Lam Thickness min 2.5 cm, max 13 cm, mode 4 cm, lams faint on weathered surfaces, are laterally continuous and dominantly planar. Lt lams are 0.5 mm thick, dk ones are 1 mm thick and alternate throughout. Composition microxyn ls, 2-3 cm sized spar lines joint surfaces. A92 Sample/Slab/Peel Description (rep litho sample taken 1.2 m abu), fresh surface colour; wk m brownish olive (2.5Y 5/2) w/ grey chert nodules, sedimentary structures; chert nodules to 5 cm in size, elongate parallel to bedding which is traceable through the nodule, low-amplitude stylolites, misc; drape of strata around chert nodules (compaction or pressure solution?), composition; 10% chert, 85% microspar, 5% interxyn porosity. Rock Name: chert (nodular) microsparite. Sample A92(conodonts) taken.
BASE OF UNIT 4.30 TOP OF UNIT 6.50 THICKNESS 2.20

UNIT A93. Weathering Character rec covered interval. However,large colonial corals to 0.5 m wide occur in scree. A93 Sample/Slab Description fresh surface colour; wk xlt orangy yellow (2.5Y 8/2), composition; dolostone.
BASE OF UNIT 6.50 TOP OF UNIT 27.50 THICKNESS 21.00

UNIT A94. Weathering Character prom. Colour WS and FS lt grey. Basal Contact covered. Bedding Character very irregular. Bed/Lam Thickness min 2 cm, max 40 cm, mode 15 cm. Composition calc dolostone, convex-up (possibly due to dissolution of brachs), long-axes are parallel to bedding, 10% vugs to 2 cm in size. 15% interxyn porosity. Fossils 2-3% ossicles, intact stems up to 2 cm long occur on bedding planes, also some sparse very poorly preserved brachs (<1%). Some dissolution along irregular bedding planes. Misc extremely fractured. A94 Sample/Slab/Thin Section Description fresh surface colour; wk vlt orangy yellow (2.5Y 7/2), composition; brach moulds, 20% 4 mm-diameter ossicles. 1% spar and 1% pyrite pore-fillings between dolomite rhombs, 3% interxyn bitumen, 60% cloudy m xyn dolomite rhombs (mode 125µm), dolomite is zoned (inclusion-rich and poor zones), fracture-related veins consist of inclusion-free limpid m xyn dolomite, 15% interxyn porosity. CL; 3% bright orange-luminescent dolomite overgrowths. FLUOR; multi-fold complex zonation of most of the dolomite. Rock Name: ossicle-rich m xyn dolostone.
BASE OF UNIT 27.50 TOP OF UNIT 31.10 THICKNESS 3.60

UNIT A95. *Now at outcrop just north of camp.* Weathering Character prom to semi-prom, 1 sq m exposure. Colour WS buff and lt grey. FS lt grey. Basal Contact covered. Bedding Character planar, flaggy to papery parting. Bed/Lam Thickness min 1 mm, max 6 cm, mode 1 cm, lams alternate dk and lt, lateral continuity over at least 0.5 m. Composition microxyn ls, questionably argil. Fossils large orthocone siphuncles occur in scree just below this unit. A95 Sample/Slab/Thin Section Description fresh surface colour; wk vlt orangy-yellow (2.5Y 7/2), sedimentary structures; planar lam, stylolites are extensive but of low-amplitude, composition; 44% microspar, 44% spar, 1% hematite(?), 1% limonite(?) as <1µm-sized dispersed mat'l, 10% interxyn porosity. Rock Name: microsparitic f xyn sparite. A95a Sample/Slab Description fresh surface colour; wk vlt orangy-yellow (2.5Y 7/2), sedimentary structures; vague planar bedding, misc; fractured, porosity/ permeability is higher near fractures, composition; 85% f xyn spar (50µm mode), 15% porosity (5% fracture, 10% interxyn porosity). CL; generally dull orange-luminescent spar w/ minor bright orange-luminescent overgrowths. Rock Name: f xyn sparite.
BASE OF UNIT 31.10 TOP OF UNIT 31.55 THICKNESS 0.45

UNIT A96. Weathering Character prom. WS and FS m brownish grey. Basal Contact trans over 5 cm, planar. Bedding Character planar irregular. Bed/Lam Thickness min 1 cm, max 8 cm, mode 4.5 cm. Composition ls w/ intraclasts, inversly size-graded, clasts to 3 cm by 8 mm in size, possibly peloidal. Sedimentary Structures high-amplitude stylolites. A96 Sample/Slab/Peel Description (taken from middle of unit), fresh surface colour; wk lt orangy-yellow (2.5Y 6/2), sedimentary structures; stylolites w/ up to 1 mm amplitude, composition; 75% intraclasts range from 0.1 to 5 mm, mode 0.5 mm (are composed of 10% micrite and 65% microspar), 20% m xyn spar, 5% interxyn porosity. Rock Name: intrasparite.
BASE OF UNIT 31.55 TOP OF UNIT 32.05 THICKNESS 0.50

UNIT A97. Weathering Character prom. WS and FS m brownish grey. Basal Contact abrupt planar. Bedding Character planar irregular, very sl wavy irregular. Bed/Lam Thickness mode 1 to 2 cm, faint lam. Composition microxyn ls. A97 Sample/Slab/Peel Description (rep litho sample), fresh surface colour; wk lt brownish olive (2.5Y 6/2), sedimentary structures; minor stylolites w/ 0.5 mm max amplitude, planar lam, composition; 75% intraclasts (composed of microspar), variable in size from calcilutite to f calcarenite, 20% microspar, 5% interxyn porosity. Rock Name: interlam calcilutite and f calcarenite: intramicrosparite. Sample A97 (conodonts) taken.
BASE OF UNIT 32.05 TOP OF UNIT 32.90 THICKNESS 0.85

UNIT A98. Weathering Character prom, only 0.5 sq m outcrop. Colour WS m brownish grey. FS lt to m grey. Basal Contact trans. Bedding Character indet, appears to be unbedded but only 0.5 sq m is exposed. Bed/Lam Thickness 1 bed only, unlam. Composition very sl dolomitic ls. A98 Sample/Slab/Peel Description (taken from the middle of the unit), fresh surface colour; wk vlt orangy-yellow (2.5Y 7/2), composition; intraclasts(?) or diagenetic

clotted texture(?), one 10 mm wide articulated and plicated brach, thin-shelled (only 50μm thick), in part broken, shell microstructure is fibrous and parallel to valve boundaries, peloids(?) or diagenetic clotted texture(?), 85% micrite/microspar, 10% f xyn spar, 5% interxyn porosity. Rock Name: sparry micritic microsparite.
BASE OF UNIT 32.90 TOP OF UNIT 33.20 THICKNESS 0.30

UNIT A99. Weathering Character rec covered interval rich in large orthocone siphuncles, large colonial corals, and abundant echinoderms. A99 Scree Sample Description fresh surface colour; wk xlt orangy yellow (2.5Y 8/2), numerous samples of poorly preserved dolomitic siphuncles of orthocones, oblong in cross-section w/ max diameter to 35 mm, connecting rings to 7 mm wide, max length of siphuncle segments is 19 cm. A99b Scree Sample/Slab/Thin Section Description (of a typical *Catenipora*), a transverse section through the center of a siphuncle, fresh surface colour; wk xlt orangy-yellow (2.5Y 8/2), misc; tr malachite, composition; one dolomitic orthocone siphuncle, annulosiphonate deposits consist of lamellar dolomite xtals, 40% ossicles (dolomitic), 4% f xyn spar cements dolomite xtals and in addition lines limpid dolomite pore-lining cement, 31% f-m xyn inclusion-rich dolomite, minor limpid dolomite lines vugs, 25% porosity (5% vugs, 20% interxyn). Rock Name: fossiliferous f-m xyn dolostone. Fossils coral in growth position.
BASE OF UNIT 33.20 TOP OF UNIT 44.70 THICKNESS 11.50

The base of A100 is taken as the contact between the upper and lower members of the Cape Crauford Formation.

UNIT A100. Weathering Character prom. WS and FS buff. Basal Contact covered. Bedding Character basal 2 m is massive. Composition argil dolostone, gn/xtal size 0.4 mm, some dolomite rhombs to 2 mm in size. At least 10% interxyn porosity, 25% rd vugs, 2 to 3 cm modal size, ellipsoidal shapes, 10% are filled w/ yellowish brown spar. The vugs are uniformly distributed-however concentration increases toward the top of the unit, good fracture porosity. Sedimentary Structures vugs, slickensides, convex-up structures, tr stylolites. Fossils <1% brachs, tr ossicles, in places up to 5 mm long echinoderm stems oriented horizontally. Ghost texture of stromatolites or stromatoporoids?. Moulds of corals and very poorly preserved fossils. A100 Sample/Slab/Thin Section Description (taken about 5 m abu), fresh surface colour; wk vlt orangy-yellow (2.5Y 7/2), sedimentary structures; vugs to 2 cm by 1 cm in size, composition; 5% spar between dolomite rhombs and lining vugs, 80% m xyn dolomite (125μm mode), larger rhombs have cloudy centers and clear rims, 15% porosity (5% as vugs, 10% interxyn), fracture-filling veins are composed of spar, high spar concentration near fractures, tr malachite xtals (25μm mode) on c xyn vug-lining spar. CL; generally dull luminescent dolomite, however, tr bright orange-luminescent coatings on vug-lining dolomite (on surfaces exposed to pore space). Clear dolomite overgrowths are non-luminescent and occur on dull orange-luminescent inclusion-rich dolomite cores. FLUOR; all the dolomite shows multi-fold complex zonation. Rock Name: vuggy/sl sparry m xyn dolostone. Sample A100a contains a small mould of a colonial coral and is lined w/ brown spar, tr stylolites. Sample A100b contains spar-filled vugs. A100c Sample/Slab/Thin Section Description 'unoriented dolomitized coral), fresh surface colour; wk lt orangy yellow (2.5Y 7/2), composition; one 10 cm-sized dolomitized poorly preserved *Catenipora* (20%), 3% spar as vein-filling fractures and spar lining vugs, minor spar fills pores between dolomite xtals, 62% m-c xyn dolomite, (modal size 225μm), 15% porosity (5% in corallites and 10% between xtals). Rock Name: coralline m-c xyn dolostone. A100d Sample/Slab Description fresh surface colour; wk lt orangy yellow (2.5Y 7/2), sedimentary structures; massive, w/ possible ghost texture of original wispy mottles, porosity in ghost mottles is 35%, dolomite in ghost mottles has few inclusions and is com leached, composition; 5% tabular stromatoporoid (dolomitic) (7 mm by 12 cm long), 10% ossicles to 5 mm diameter, 2% bitumen, 68% m xyn dolomite (100μm mode), has inclusion-rich cores and clear rims, 15% interxyn porosity. CL; some of the dolomite xtals filling vugs have alternating bright and non-luminescent zones. One bright pink luminescent xtal of fluorite(?) in a porous mottle, minor fluorite luminesces a uniform blue. FLUOR; most dolomite is complexly zoned, minor dolomite in more porous

areas (relict mottles?). Rock Name: fossiliferous m xyn dolostone.
BASE OF UNIT 44.70 TOP OF UNIT 50.70 THICKNESS 6.00

B. FIELD AND SAMPLE DESCRIPTIONS FOR SECTION B, MEASURED IN 1982.

Locality: North central Jackson Inlet.
Latitude: 73°18'25"N.
Longitude: 88°44'30"W.

Section B starts at lat. 73°18'21"N, long. 88°44'27"W about 10 m asl and ends at lat. 73°18'32"N, long. 88°44'40"W. The start of section B is 6.1 km west of section A. Base camp is at lat. 73°17'19"N, long. 88°35'24"W.

The base of section B is within member B of the Baillarge Formation.

UNIT B1. Weathering Character prom. Colour WS and FS m brownish grey overall, lt and dk lams. FS aa but lighter. Basal Contact obscured by stream. Bedding Character sl wavy, locally brecciated. Bed/Lam Thickness min 1 cm, max 20 cm, mode 10 cm, dk lams are 0.5 to 2 mm thick, lt lams are thinner. Composition dolostone, locally mosaic to rubble breccia, minor carb lams, microxyn gn size <0.1 mm. Sedimentary Structures hummocky structures. B1 Sample/Slab/Thin Section Description (rep litho sample), fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; planar lam, low-amplitude stylolites, composition; tr spar, 4% dk brown dolomite inclusions, 1% interxyn bitumen, 80% f xyn dolomite (50μm mode), 15% interxyn porosity. CL; 5% bright orange-luminescent limpid dolomite (some is non-luminescent), mainly as vug-fillings. Most of the dolomite is non-luminescent. Rock Name: f xyn dolostone.
BASE OF UNIT 0.00 TOP OF UNIT 2.00 THICKNESS 2.00

UNIT B1a. On west side of stream. Weathering Character prom. Colour WS m brownish grey overall, lt and dk lams. FS aa but lighter. Basal Contact obscured by stream. Bedding Character crackle to rubble breccia w/ sub-parallel to rotated large clasts in breccia. Composition 80% clasts. 20% 'matrix' is composed of large euhedral spar 2 cm long by 8 mm wide oriented perpendicular to clast boundaries. B1a Sample/Thin section Description fresh surface colour; m olive-brown (10YR 5/3) clasts and wk xlt yellowish-orange (10YR 8/2) spar 'matrix', composition; dolostone clast breccia, 30% f to extremely c xyn spar, xtal size increases away from the clast boundaries, 60% breccia clasts range from 2 to 45 mm in size, mode 20 mm, clast composition is lam f-m xyn dolospar w/ 15% porosity. CL; orange-luminescent 'matrix' of zoned spar cement between non-luminescent dolostone clasts. FLUOR; sharp zonation of spar between clasts. Rock Name: c calcirudite-sized breccia; f to m xyn dolostone 'clast' spar 'matrix' crackle to rubble breccia. B1b Sample/Thin Section Description fresh surface colour; m olive brown (10YR 5/3), sedimentary structures; planar lams, low-amplitude stylolites, tr pore-filling spar, pore-lining cement consists of euhedral dolomite rhombs containing 5% opaque inclusions, 85% f to m xyn dolomite (50μm mode), 15% interxyn porosity. CL; 2% bright orange-luminescent pore-filling spar in an otherwise non-luminescent dolostone. FLUOR; tr zoned dolomite in porous areas. Rock Name: f-m xyn dolostone.

UNIT B2. Weathering Character prom. Colour WS mottled lt grey and m-dk grey, yellowish brown patches. FS lt to m grey. Basal Contact trans, is both lam and mottled and 20 to 50 cm thick. Bedding Character planar irregular, wavy (wavelength 2 cm, amplitude 5 mm). Bed/Lam Thickness min 2.5 cm, max 20 cm, mode 6 cm. Composition dolostone breccia w/ possible minor argil content. Sedimentary Structures brecciation throughout. Fossils ostracods occur only on some bedding planes, not throughout the unit. They are 1 cm in size and

occupy 5% of bedding surfaces although in cross-section their apparent abundance is 15%. B2 Sample/Slab/Thin Section Description fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; planar lam and wispy low-amplitude stylolites marked by discontinuous opaque films, composition; 15% poorly preserved articulated ostracods to 17 mm in size, valve is 125μm thick and dolomitic, 4% m xyn spar (125μm mode), 3% opaques, 73% f xyn dolomite (50μm mode), 5% interxyn porosity. Rock Name: ostracodal f xyn dolostone. B2a Sample/Slab Description (includes ostracods on a bedding plane), fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; wispy low-amplitude stylolites, composition; 15% ostracods to 8 mm in size, patches occur where 5% spar fills pores between dolomite rhombs, 85% m xyn dolomite, some vugs lined w/ limpid dolomite and filled w/ m xyn spar, 10% interxyn porosity. CL; limpid dolomite lining vugs is non-luminescent, 3% spar filling dolomite-lined vugs varies from dull to bright orange-luminescent. Rock Name: sl sparry ostracodal m xyn dolostone. Misc joint surfaces lined w/ 1 mm dolomite xtals, vst bitumenous odour upon striking.
BASE OF UNIT 2.00 TOP OF UNIT 3.50 THICKNESS 1.50

UNIT B3. Weathering Character prom. Colour WS and FS overall m grey (banded), m to dk grey beds, buff to brownish grey lams. Basal Contact trans over 5-10 cm, planar. Bedding Character planar, sl wavy, very irregular, possibly contorted. Bed/Lam Thickness lams are quite distinct, avg thickness 3 to 4 mm, varies laterally in thickness and is almost lensoidal in places. Composition microxyn (<0.1 mm) dolostone, 30% intraclasts to 2 cm long, are white and sbrd, abundant vugs in upper 0.5 m. Sedimentary Structures contorted bedding and intraclasts near upper contact, abundant vugs in upper 0.5 m of unit. Misc very well indurated, very dense, w/ vertical slickensides. In upper 0.5 m there is extensive vuggy porosity. Unit is fractured w/ numerous joints spaced 1 to 7 cm apart. B3 Sample/Slab/Thin Section Description (taken from base of unit), fresh surface colour; interbedded wk m olive-brown (10YR 5/2) and wk lt olive-brown (10YR 6/2), sedimentary structures; planar, sl wavy lam/bedding, numerous low-amplitude stylolites marked by carb films, misc; vein-filling fractures consist of f-vc xyn spar, size increases away from walls, composition; 1% spar as cement between dolomite rhombs and filling fractures, 2% opaques, 87% m xyn dolomite, 10% interxyn sample porosity. CL; generally non-luminescent dolomite w/ tr thin orange-luminescent overgrowths. Rock Name: m xyn dolostone.
BASE OF UNIT 3.50 TOP OF UNIT 6.10 THICKNESS 2.60

UNIT B4. Weathering Character prom. Colour WS and FS mottled, m to lt grey and lt brownish grey. Basal Contact abrupt planar. Bedding Character mottles at base have a planar fabric (mottle long-axes are parallel to bedding). Near the top of the unit the mottles become more randomly oriented and equidimensional. Bed Thickness very thick bedded. Composition dolostone w/ corals (5%), stromatoporoids and brachs, gn/xtal size 0.3 mm, 5% bitumen fills corallites and stromatoporoids. Sedimentary Structures mottles are sbrd to sbang, 1 cm wide near the base, 2 to 3 cm wide near the top of the unit such that there is an inverse grading of mottle size. Fossils 5% favositid corals and rare in situ solitary corals. The lowermost metre is unfossiliferous. Corals occur 18 m abu and a few brachs occur about 18.6 m abu. Tabular stromatoporoids (1 cm thick and 20 cm wide) 18 m abu. Misc extremely well indurated. B4 Sample/Slab/Thin Section Description (taken near top of unit, a few cup corals are on their side and one of these is broken), fresh surface colour; mottled wk lt olive-brown (10YR 6/2) and wk m olive-brown (10YR 5/2), sedimentary structures; wispy stylolites and mottles, composition; 15% ossicles to 5 mm in diameter, have dolomite syntaxial overgrowths, 2 small solitary corals 2.5 mm in diameter, a small stromatoporoid, 8% f-m xyn spar, tr pyrite and chert spherules, 57% f xyn (50μm mode) dolomite, 20% interxyn porosity. CL; limpid dolomite lining vugs is non-luminescent, 3% spar filling vugs is bright orange luminescent (a minor amount is non-luminescent). FLUOR; minor zoned dolomite fills fractures. Rock Name: mottled ossicle-rich f xyn dolostone.
BASE OF UNIT 6.10 TOP OF UNIT 24.85 THICKNESS 18.75

UNIT B5. Weathering Character semi-prom. Colour WS lt brownish-grey. FS speckled white

and m grey. Basal Contact trans over 2 cm. Bedding Character indistict but appears to be planar to sl wavy. Bed/Lam Thickness min 3 cm, max 20 cm, mode 8 cm, intraclast zones occur where lams are indistinct. Composition dolostone, gn/xtal size 0.5 mm, 15% interxyn porosity, intraclasts 25 cm below upper contact are up to 5 mm in size, sbang to sbrd and subequant. There is a faint lineation subparallel to bedding due to minor carb lams. Fossils echinoderm stems near base of unit are intact, trend 65° on bedding planes. Misc very well indurated. B5 Sample/Slab/Thin Section Description (taken of litho and echinoderm stems), fresh surface colour; wk m olive-brown (10YR 5/2) w/ minor wk m olive-brown (10YR 4/2) lams, sedimentary structures; low-amplitude stylolites are accentuated by dk brown film, white and lt brown dolomite has a clotted texture, composition; tr gastropods, brachs and ossicles, shell microstructure is dolomitic, 1% f xyn spar fill fractures and dolospar-lined vugs, 1% bitumen in vugs, clay-sized inclusions in dolomite xtals, 88% m xyn dolomite (125μm mode) of 2 types, lt brown and vug-filling dolospar to 200μm-sized rhombs and lt brown dolomite w/ clear overgrowths (est 3% clay-sized inclusions), dolomite xtals are intergrown, 10% sample porosity, consists of 5% vugs (to 4 by 1 mm in size and elongate parallel to bedding) and 5% between xtals. CL; generally non-luminescent except for subvertical fracture-filling veinlets (bright orange luminescent overgrowths on spar along fractures).
Rock Name: vuggy m xyn dolostone.
BASE OF UNIT 24.85 TOP OF UNIT 25.65 THICKNESS 0.80

UNIT B6. Weathering Character prom. Colour WS and FS banded lt and m brownish grey (mottled in places). Basal Contact trans, planar irregular over 1 sq m exposure. Bedding Character intergraded mottled and planar to wavy lam intervals. Bed/Lam Thickness min 1 cm, max 10 cm, mode 5 cm, carb lams in upper 5 cm are laterally continuous. Composition dolostone. Sedimentary Structures mottles. Fossils poorly preserved brachs, disarticulated, convex-up valves in zone. B6 Sample/Slab/Thin Section Description fresh surface colour; wk olive-brown (10YR 5/2), sedimentary structures; porous mottles, composition; 5% 2 cm-sized smooth disarticulated strophic brachs, 2% f xyn spar, 83% m xyn dolomite rhombs (80μm mode) w/ clear rims and inclusion-rich cores, limpid c xyn dolomite lines pores, 10% sample porosity, mottled areas have 15% interxyn porosity. CL; spar in vug has a bright orange luminescent rim where it is surrounded by pore-space in a limpid dolomite-lined vug. The limpid dolomite is non-luminescent. FLUOR; tr orange fluorescent dolomite cores in a vein-filling fracture. Rock Name: mottled brach-bearing m xyn dolostone.
BASE OF UNIT 25.65 TOP OF UNIT 26.05 THICKNESS 0.40

UNIT B7. Weathering Character rec to semi-prom. Colour WS and FS lt grey w/ yellowish-brown patches. Basal Contact abrupt, irregular wavy, (wavelength 6 cm, amplitude 6 mm). Bedding Character tabular cross-stratification. Bed/Lam Thickness min 10 cm, max 45 cm (2 to 3 beds). Composition dolostone, upper 15 cm of unit contains intraclasts, lower half does not, 0.5 mm xtal size, intraclasts are 50% of upper unit, 1 cm long, ang to sbang, elongate subparallel to bedding. Sedimentary Structures lower 0.6 m contains 10 cm thick tabular cross-strata w/ an apparent dip of 10° wrt bedding. Misc bitumenous odour, well indurated. B7 Sample/Slab/Thin Section (taken from top of unit), fresh surface colour; overall m olive-brown (10YR 5/3) and minor vwk dk olive-brown (10YR 4/1), sedimentary structures; low-amplitude stylolites accentuated by dk brown residual film, composition; 5% ostracods to 0.8 mm (max dimension), 20% turretellid gastropods (modal length 3 mm) and larger broken gastropod debris, fossils all dolomitic, <1% spar, 65% dolomite, 2 types of m xyn dolomite (125μm mode), one white, one lt brown, both w/ inclusion-rich cores, each type concentrated in small patchy areas, lt brown dolomite fills original articulated ostracods, segregation of white and lt brownish dolomite may be related to stylolitization, 10% interxyn porosity. CL; generally non-luminescent dolomite w/ tr orange luminescent overgrowths on dolomite. FLUOR; limpid fracture-filling dolomite is zoned and has fluorescent overgrowths.
Rock Name: gastropodal m xyn dolostone.
BASE OF UNIT 26.05 TOP OF UNIT 26.75 THICKNESS 0.70

UNIT B8. Weathering Character prom. Colour WS mottled m grey and yellow-brownish grey.

FS aa, sl less yellowish brown. Basal Contact abrupt, sl wavy (wavelength 10 cm, amplitude 1 cm). Bedding Character massive. Bed Thickness 1 m. Composition dolostone w/ pinpoint porosity, hummocky and convex-up structures 10 cm long by 1 cm high, one has umbrella-shaped vugs at base. Sedimentary Structures stromatolites, tr vugs lined w/ spar. Fossils 3 m abu there are sparse brachs, cup corals, tabular stromatoporoids (one is convex-up, 15 cm long and 1 cm thick) and cephalopods (or gastropods). Misc very well indurated, bitumenous odour. B8 Sample/Slab/Thin Section Description fresh surface colour; mottled wk m olive-brown (10YR 5/2) and vwk dk olive-brown (10YR 4/1), sedimentary structures; low-amplitude but numerous wispy stylolites accentuated by vdk brown residue, composition; 25% articulated ostracods (dolomitic), 2.5 mm modal size, shell microstructure is f xyn dolomite, 2% spar fills limpid dolomite-lined vugs, 1 patch of c xyn spar, tr pyrite as 50μm-sized xtal accumulations to 2.5 mm in size, 1 silicified ostracod valve has relict fibrous structure, some dolomite rhombs also silicified, 58% m xyn dolomite, bimodal, mainly 100 and 200μm-sized (in patchy areas), dolomite has inclusion-rich cores, porosity is 15% (10% interxyn, 5% vugs). CL; vugs are lined w/ non-luminescent spar, 1% spar filling vugs is zoned and luminesces bright orange. FLUOR; dolomite filling fractures is zoned. Rock Name: ostracodal m xyn dolostone. BASE OF UNIT 26.75 TOP OF UNIT 31.25 THICKNESS 4.50

The contact between member B of the Baillarge Formation and the lower member of the Cape Crauford Formation is taken as the B8/9 contact.

UNIT B9. Weathering Character semi-prom. Colour WS and FS m grey, yellowish-brown surface stain accentuates bedding. Basal Contact abrupt, planar. Bedding Character planar w/ minor cross-lam. Bed/Lam Thickness min 1 cm, max 20 cm, mode 2 cm. Composition calc dolostone, possibly argil, carb lams minor, gn/xtal size 0.2 mm, dk and lt lams, dk lams 2 mm thick, lt lams 1 mm thick. Sedimentary Structures low-angle cross-lam sets approx 1 cm thick. Misc minor kink fold in unit. B9 Sample/Slab/Thin Section Description fresh surface colour; wk m olive-brown (10YR 5/2) w/ minor vwk dk olive-brown (10YR 3/1) lams, sedimentary structures; low-amplitude stylolites (0.3 mm amplitude), low-angle cross-lam sets approx 1 cm thick, some lams preferentially dolomitized, composition; vf calcarenite (100μm mode), 64% peloids composed of microspar (in part dolomitic), 30% microspar/f xyn spar 'matrix' (in part dolomitic), 1% bitumen, 30% total m xyn dolomite contains microspar ghosts, therefore dolomite is post-microspar, 5% interxyn sample porosity. CL; dolomite luminesces a uniform dull orange in a non-luminescent peloidal 'groundmass'. Rock name: vf calcarenite; sparry/dolomitic pelmicrosparite.
BASE OF UNIT 31.25 TOP OF UNIT 32.55 THICKNESS 1.30

UNIT B10. Weathering Character prom. Colour WS lt to m grey. FS lt grey. Basal Contact abrupt, planar. Bedding Character massive (bed thickness=unit thickness). Composition dolostone. Sedimentary Structures low-amplitude stylolites (?) near the base. Fossils sparse brachs (?). B10 Sample/Slab Description (taken from upper part of unit), fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; low-amplitude stylolites are accentuated by dk brown films, locally folded (contorted stratification), 21% fossils (3% ossicles, 15% gastropod frags, 2% 3 cm-sized favositid coral frags, 1% brach frags, tr ostracods), 54% f xyn spar, 20% f xyn dolomite (50μm mode) concentrated along stylolites, dolomitic areas are related in part to stylolites, gastropod and ostracods in part dolomitic, dolomite also fills corallites, 5% sample porosity. Rock Name: dolomitic fossiliferous f xyn sparite.
BASE OF UNIT 32.55 TOP OF UNIT 32.75 THICKNESS 0.20

UNIT B11. Weathering Character semi-prom. Colour WS and FS m grey. Basal Contact abrupt, planar. Bedding Character planar in lower 20 cm, trans up to sl hummocky bedding (wavelength 10 cm, amplitude 3 cm). Bed/Lam Thickness min 2.5 cm, max 10 cm, mode 4-5 cm, lams laterally discontinuous, fossiliferous zone is not lam, dk coloured lams more abundant (to 5 mm thick), lt lams are 1 mm thick, possibly cross-lam in places. Composition calc dolostone w/ minor carb lams, numerous intraclasts in the basal 10 cm, 4 cm long, clasts

elongate parallel to bedding, but in places at right angles to bedding. Sedimentary Structures possibly cross-lam. Fossils some randomly oriented brachs in a 10 cm zone 0.6 m abu, very poorly preserved gastropods (5%). B11 Sample/Slab/Thin Section Description (taken from fossiliferous zone below intraclasts), wk dk olive-brown (10YR 4/2), sedimentary structures; vague bedding, composition; 15% intraclasts (2-6 mm in size), 15% gastropod frags, 2% ossicles, one 1.5 mm long stick bryozoan, one sparmicritized(?), dolomitized, and silicified ossicle, 25% peloids (50μm mode), 13% microspar, 5% m-c xyn spar, tr bitumen in fractures, tr pyrite, 20% f xyn 30μm lt brown dolomite, textural relationships; patches of dolomite related in part to stylolites, some gastropod shells are replaced by m-c xyn white dolomite, articulated ostracod valve is filled w/ white m-c xyn dolostone, 5% interxyn sample porosity. CL; a dolomitized gastropod shell luminesces dull orange. Rock Name: dolomitic/intraclastic/gastropodal biopelmicrosparite.
BASE OF UNIT 32.75 TOP OF UNIT 34.35 THICKNESS 1.60

UNIT B12. Weathering Character prom. Colour WS lt brownish grey (mottled m and lt brownish-grey). FS mottled lt and m grey. Basal Contact abrupt, planar. Bedding Character planar irregular. Bed/Lam Thickness min 15 cm, max 30 cm (3 beds in all). Composition dolostone, carb, possibly bitumenous, gn/ xtal size 0.2 mm, 10% interxyn porosity. Sedimentary Structures low-amplitude stylolites. Fossils minor very poorly preserved corals and brachs. B12 Sample/Slab Description (from middle of unit, contains bitumen, well indurated w/ bitumenous odour upon striking), fresh surface colour; mottled wk lt olive-brown (10YR 6/2) and wk m olive-brown (10YR 5/2), sedimentary structures; stylolites, composition; 3% ossicles and 5% favositid corals, a 3 mm c plicate brach and a chain coral, 3% m xyn pore-filling spar, 5% bitumen, 54% m xyn dolomite (75μm mode), 30% sample porosity. Rock Name: sl bitumenous m xyn dolostone. B12a Sample/Slab/Thin Section Description (of possible corals), fresh surface colour; mottled wk vlt yellowish-orange (10YR 7/2) and vwk dk olive-brown (10YR 4/1), sedimentary structures; low-amplitude stylolites, composition; 10% broken favositid coral frags, 2% ossicles, 1% m-c xyn spar, 3% bitumen, 1% chert, 68% m xyn dolomite, corallite walls are vf xyn dolomite, 15% interxyn sample porosity. CL; 5% bright orange-luminescent overgrowths on non-luminescent dolomite cores. Rock Name: coralline m xyn dolostone.
BASE OF UNIT 34.35 TOP OF UNIT 35.35 THICKNESS 1.00

UNIT B13. Weathering Character semi-rec to rec, isolated outcrop. Colour WS and FS interbedded lt and m brownish-grey. Basal Contact abrupt, very sl wavy, (wavelength 10 cm, amplitude 5 mm.) Bedding Character planar lam. Bed/Lam Thickness min 0.5 mm, max 5 cm, 75% lt coloured 3 mm thick lams. Composition dolostone, gn size 0.2 mm, carb lams, considerable bitumen. Sedimentary Structures low-amplitude stylolites. Misc well indurated, bitumenous odour upon striking. B13 Sample/Slab/Thin Section Description fresh surface colour; wk m olive-brown (10YR 5/2) w/ minor vwk olive-brown (10YR 4/1), sedimentary structures; low-amplitude stylolites accentuated by dk brown bitumenous(?) residue to 75μm thick, 1% m xyn subvertical vein-filling fracture and patches of interxyn spar, 3% bitumen, 71% m xyn dolomite, euhedral rhombs w/ inclusion-free overgrowths, 25% interxyn porosity. CL; 1% uniformly distributed bright orange-luminescent dolomite. Rock Name: sl bitumenous m xyn dolostone.
BASE OF UNIT 35.35 TOP OF UNIT 36.05 THICKNESS 0.70

UNIT B14. Rec covered interval.
BASE OF UNIT 36.05 TOP OF UNIT 37.85 THICKNESS 1.80

UNIT B15. Weathering Character semi-prom. Colour WS and FS lt grey. Basal Contact covered. Bedding Character massive. Composition dolostone, gn/xtal size 0.4 mm, 10% irregularly shaped vugs, 3 cm by 1 cm, lined w/ spar, vug long-axes are parallel to bedding, convex-up and may be brach moulds. B15 Sample/Slab/Thin Section Description fresh surface colour; mottled wk vlt yellowish orange (10YR 7/2) and wk m olive-brown (10YR 5/2), sedimentary structures; vugs, composition; 5% 3 cm-sized favositid coral frags (dolomitic), 4%

spar fills pores, 1% as sparry veins filling subvertical fractures, 70% m xyn dolomite (80μm mode), minor wispy dolomitic mottles are probably related to stylolites, sample porosity is 20% (10% vugs to 5 mm in size and 10% between xtals). CL; vugs are filled w/ bright orange-luminescent spar overgrowths on non-luminescent cores, otherwise dolomite luminesces dull orange-red. FLUOR; minor fluorescent dolomite rhomb cores in pore-filling dolomite. Rock Name: vuggy fossil-bearing m xyn dolostone.
BASE OF UNIT 37.85 TOP OF UNIT 41.15 THICKNESS 3.30

UNIT B16. Weathering Character semi-rec (2 sq m outcrop). Colour WS lt olive-grey. FS m brownish grey. Basal Contact covered. Bedding Character very sl wavy (wavelength 20 cm, amplitude 3 cm), some breccia pipes from B17 extend down into this unit. Bed/Lam Thickness 20-25 cm, lams extremely faint. Composition calc dolostone, gn/ xtal size 0.2 mm, locally brecciated (20 cm wide pipe bounded by joints), breccia is crackle to mosaic, clast mode approx 4 cm, local minor vugs 2.5 by 2 cm, irregularly-shaped and lined w/ 1 mm-sized spar. Intraclasts are elongate 1 mm by 3.5 cm and subparallel to bedding. An argil layer 1 cm thick occurs in the middle of the unit, and intraclasts were noted in the upper 15 cm. Misc well indurated, slickensides trend 72°, plunge 40°E, slickensided surface occurs just below the breccia. B16 Sample/Slab/Thin Section Description (has weathered slickensides) fresh surface colour; mainly wk lt olive-brown (10YR 6/2), 85% f xyn dolomite (40μm mode) includes many corroded rhombs, 15% interxyn sample porosity. CL; uniformly very dull or non-luminescent dolomite. Rock Name: f xyn dolostone.
BASE OF UNIT 41.15 TOP OF UNIT 42.25 THICKNESS 1.10

UNIT B17. Weathering Character prom. Colour WS buff, w/ yellowish brown patches and malachite(?) staining. FS mottled lt brownish grey and m to dk grey. Basal Contact abrupt very irregular. Some breccia extends as pipes into the underlying unit B16. Bedding Character mosaic to rubble breccia. Composition breccia, 50% clasts, calc dolostone, sbang to sbrd, randomly oriented, clasts to 20 cm in size. Breccia is 10 m wide, some clasts are lam and have considerable vuggy porosity. Sedimentary Structures subvertical slickensides. Misc extensively fractured.
BASE OF UNIT 42.25 TOP OF UNIT 44.75 THICKNESS 2.50

UNIT B18. Weathering Character semi-prom. Colour WS and FS interbedded lt brownish grey and m brownish grey. Basal Contact abrupt, irregular. Bedding Character planar to wavy/hummocky lams and beds. Bed/Lam Thickness min 2 mm, max 30 cm, mode 6 cm, wavy lams, laterally continuous over at least 1 m. Composition dolostone, dk lams may be carb, gn/xtal size 0.2 mm. Sedimentary Structures hummocky structures. B18 Sample/Slab/Thin Section Description fresh surface colour; overall wk lt olive-brown (10YR 6/2), composition; 1% spar, 79% m xyn dolomite (100μm mode), 20% sample porosity (10% interxyn and 10% gypsum(?) xtal moulds, in part dolomitic pseudomorphs or dolomite casts), some swallowtail twin moulds, 1 mm in size. CL; 1% bright orange-luminescent clear calcite(?) in a non-luminescent dolostone. Rock Name: m xyn dolostone.
BASE OF UNIT 44.75 TOP OF UNIT 46.35 THICKNESS 1.60

UNIT B19. Weathering Character semi-prom. Colour WS & FS interbedded m-dk grey (subunit 19a) and yellowish brown (subunit 19b). Basal Contact abrupt, wavy. Bedding Character planar, locally brecciated. Bed/Lam Thickness min 1 cm, max 13 cm, mode 7 cm. Composition 60% subunit 19a-dolomitic ls, microxyn, dk weathering, 40% subunit 19b. Sedimentary Structures high-amplitude stylolites, vugs. B19a Sample/Slab/Thin Section Description (of dk weathering bed), fresh surface colour; vwk lt olive-brown (10YR 6/1), sedimentary structures; high-amplitude (1 mm) stylolites, low-angle cross-lam, composition; 88% micrite/microspar, 1% brown residue accentuates stylolites, 2% dispersed spar pseudomorphs after gypsum xtals, 9% porosity (5% gypsum xtal moulds to 3 mm and 4% interxyn porosity). CL; non-luminescent except for a complex pattern (<1%) of subvertical and horizontal spar-filled fracture-filling veinlets (bright orange-luminescent). Rock Name: micritic microsparite. B19b Sample/Slab/Thin Section Description (litho and conodont

sample), fresh surface colour; 10YR 6/2, sedimentary structures; sl fractured, tr stylolites, composition; 87% microspar, 5% f xyn spar lines vugs and cements clasts, tr pyrite and opaque brown mat'l, 8% sample porosity (3% vug/fracture porosity and 5% interxyn porosity). CL; non-luminescent except for dull orange-luminescent veins and vug-filling/lining spar. Rock Name: locally brecciated sl sparry microsparite.
BASE OF UNIT 46.35 TOP OF UNIT 49.35 THICKNESS 3.00

UNIT B20. Weathering Character semi-prom. Colour WS m brownish grey. FS m grey. Basal Contact abrupt, irregular. Bedding Character local rubble breccia. Composition rubble breccia, but differentiation of 'clasts' and 'matrix' is difficult except where clasts are lam, clasts are microxyn ls and randomly oriented. Sedimentary Structures subvertical slickensides. B20 Sample/Slab/Thin Section Description (taken from middle of unit). fresh surface colour; wk lt olive-brown (10YR 6/2), composition; breccia, 5% fracture porosity, also as 15μm thick rims at the boundary between clasts and 'matrix', 40% of breccia clasts are larger than 2 mm in size, elongate, 'clasts' consist mainly of microspar, min size 2 mm, max 10 mm, mode 4 mm, 55% 'matrix' consists of f xyn sparite. CL; 35% bright orange-luminescent rims of coated clasts. Rock Name: f calcirudite-sized breccia; microsparite 'clast' f xyn sparite 'matrix' breccia.
BASE OF UNIT 49.35 TOP OF UNIT 57.25 THICKNESS 7.90

UNIT B21. Weathering Character semi-prom. Colour WS dk grey. FS m to dk grey. Basal Contact abrupt planar. Bedding Character planar, sl hummocky (wavelength 6 cm, amplitude 1 cm), locally deformed (kink fold). Bed/Lam Thickness min 1 cm, max 4 cm, mode 2 cm. Composition dolomitic ls, porous and permeable, 0.2 mm gn/xtal size, faint carb or argil lams, laterally discontinuous. B21 Sample/Slab/Thin Section Description (taken 1 m abu). fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; planar lams, minor 0.5 mm amplitude stylolites, tr ossicles, 50% peloids (composed of microspar), peloids have a 75μm size mode, range 25-150μm, 45% f xyn spar, 4% brown residue (3% dispersed and 1% along stylolites), one 0.1 mm long conodont w/ approx 15 small 'teeth', 5% sample porosity (2% along and near stylolites and 3% between xtals). CL; non-luminescent except for one small subvertical spar veinlet. Rock Name: pelsparite.
BASE OF UNIT 57.25 TOP OF UNIT 62.25 THICKNESS 5.00

UNIT B22. Weathering Character prom. Colour WS overall buff to lt yellowish brown, irregular surface stain. FS aa, but sl lighter. Basal Contact trans over 20 cm, hummocky (6 to 40 cm wavelength, 1 to 15 cm amplitude, irregular as well). Bedding Character rubble breccia (pipe). Composition breccia clasts (60-70%), matrix (30-40%). Basal 40 cm-clasts are 1 mm to 2 cm long, avg 7-8 mm (poorly sorted), some clasts are dk grey, subequant, randomly oriented, sbang to ang. Within this basal 40 cm zone there is a very uniform inverse grading. Above this zone clast size increases from 1 mm to 15 cm, clasts are very poorly sorted and modal clast size is 1-2 cm. Clast description aa, large sbrd clasts 3 m abu. Sedimentary Structures high-amplitude stylolites. B22 Sample/Slab/Thin Section Description (taken 2 m abu, some clasts are dissolved, resulting in a patchy vuggy porosity). fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; many stylolites w/ up to 15 mm amplitude cross-cut breccia clast boundaries and are accentuated w/ an avg 75μm thick dk brown opaque residue that could account for many mm of dissolved mat'l, 30% f to m xyn spar 'matrix', tr chert, 1% f xyn dolomite concentrated adjacent to stylolites, 5% porosity along stylolites, some clasts are dissolved or partly dissolved, 10% interxyn porosity, there are 54% breccia clasts are larger than 2 mm, randomly oriented, composed of microsparite/sparite, breccia clasts range from 2 to 20 mm in size, w/ a mode of 8 mm. CL; 40% moderate orange-luminescent 'matrix' between clasts. Residue along stylolites is non-luminescent. Rock Name: m calcirudite-sized breccia: microsparite/f xyn sparite clast rubble breccia. B22a Sample/Slab/Thin Section Description (consists of large white 30 cm-sized clasts 27 m abu. Breccia also occurs on the other side of the stream). fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; vaguely bedded, 42% microspar, 1% brown opaques, tr pyrite, 52% f xyn dolomite (60μm mode as dispersed

rhombs), there are microspar ghosts, therefore dolomite is post-microspar, 5% interxyn sample porosity. CL; non-luminescent. Rock Name: microsparitic f xyn dolostone. Section B was terminated here because the rest of the section was too steep and is probably a breccia pipe to the top of the cliff.
BASE OF UNIT 62.25 TOP OF UNIT 101.25 THICKNESS 39.00

C. FIELD AND SAMPLE DESCRIPTIONS FOR SECTION C, MEASURED IN 1982.

Locality: North central Jackson Inlet.
Latitude: 73°18'12"N.
Longitude: 88°42'50"W.
This section starts about 5.1 km west of section A and east of section B.

UNIT C1. Weathering Character prom. Colour WS mottled m grey and yellow brownish grey. FS aa but generally sl darker. Basal Contact covered. Bedding Character planar irregular w/ irregular surface following mottle pattern and hummocky structures. Bed/Lam Thickness min 14 cm, max 2 m. Composition dolostone, irregular dk carb patches, mottles about 3 cm in size, some mottle long axes are parallel to bedding, gn/xtal size 0.3 mm in the middle of unit. Fossils abundant but poorly preserved, colonial corals, sparse brachs and cup corals throughout. A 20 cm thick fossil zone occurs 5 m abu. Brachs (5%) are randomly oriented, cup coral (1%) is on its side, favositid corals and ossicles. C1 Sample/Slab/Thin Section Description (taken from the middle of the unit), fresh surface colour; mottled, overall wk lt olive-brown (10YR 6/2), sedimentary structures; stylolites, composition; fossils dolomitic, consist of 10% ossicles w/ dolomitic syntaxial overgrowths, 5% favositid coral (20 mm in size), 1% *Catenipora*, the corallite microstructure is vf xyn dolomite, 1 cup coral (11 mm high), 1% m xyn spar, 3% brown opaque clay-sized inclusions in dolomite xtals, (80% are m xyn w/ a 125μm mode), dolomite rhombs have clear rims and inclusion-rich cores, 20% sample porosity (mainly interxyn although central corallites of favositid coral have 40% porosity). CL; 2% bright orange-luminescent calcite overgrowths on non-luminescent spar cores. The rest of the sample is non-luminescent dolomite. FLUOR; multi-fold zoned vug-filling spar. Rock Name: fossiliferous m xyn dolostone. Sample C1a taken of poorly preserved coral from talus.
BASE OF UNIT 0.00 TOP OF UNIT 9.00 THICKNESS 9.00

UNIT C2. Weathering Character semi-prom. Colour WS m yellowish brown limonitic stains, lt brownish grey, banded lt and dk. FS m brownish grey w/ dk grey lams. Basal Contact trans over 5 cm, planar. Bedding Character planar irregular to sl wavy. Bed/Lam Thickness min 2 cm, max 13 cm, mode 7 cm, lams widely spaced (1 cm), dk grey (1 mm) lams, carb, continuous laterally over at least 30 cm, irregularly-shaped. Composition dolostone, gn/xtal size 0.3 mm, 10% interxyn porosity, rd intraclasts occur near top of unit in a zone 3 cm thick, comprises 30% in cross-section, 2% carb lams. Limonitic(?) staining on weathering surface, 2% on joint faces, possibly pyrite weathering, carb lams comprise 2%. Sedimentary Structures intraclasts, some of the wavy bedding may be ripple marks. Fossils sparse brachs occur in the upper 10 cm of unit, all convex-up, some articulated, generally poorly preserved. C2 Sample/Slab/Thin Section Description (taken from middle of unit). fresh surface colour; wk lt olive-brown (10YR 6/2) w/ minor vwk xdk olive-brown (10YR 2/1) lams, sedimentary structures; low-amplitude stylolites, misc; fractures lined w/ m xyn limpid dolomite, bitumen fills center, composition; 15% articulated ostracod ghosts (dolomitic), 1% c xyn spar fills limpid dolomite-lined vugs, 1% bitumen fills fractures, 3% brown clay-sized inclusions occur in dolomite rhombs, there is 68% m xyn dolomite (75μm mode) which has brown inclusion-rich cores and clear inclusion-free rims, 15% interxyn porosity. CL; <1% bright orange-luminescent calcite, dolomite luminesces dull red. FLUOR; multifold zonation of vug-filling spar. Rock Name: mottled ostracodal f-m xyn dolostone. C2a Sample Description (taken from upper 10 cm of unit), contains strophic f costate brachs to 20 mm wide).

BASE OF UNIT 9.00 TOP OF UNIT 9.70 THICKNESS 0.70

UNIT C3. Weathering Character semi-prom. Colour WS lt brownish grey w/ yellowish brown staining on joint surfaces. FS lt brownish grey. Basal Contact abrupt, very sl wavy (wavelength 1.5 m, amplitude 5 cm). Bedding Character massive. Composition dolostone, gn/xtal size 0.4 mm. C3 Sample/Slab/Thin Section Description (taken from upper half of unit), fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; discontinuous wispy stylolites, composition; 5% spar fills interxyn pores, vugs, and fractures, 1% bitumen, 2% clay-sized inclusions in dolomite. Total dolomite content is 74%, dolomite is m xyn (100μm mode) and has inclusion-rich cores and clear rims, although in some rhombs there are multiple inclusion-rich and poor zones, 20% interxyn and fracture porosity, interxyn porosity is higher around fractures. CL; 10% bright orange-luminescent calcite overgrowths on non-luminescent calcite cores. Dolomite is non-luminescent and calcite is distributed along veinlets and in porous areas between dolomite xtals. FLUOR; tr zoned dolomite. Rock Name: sl sparry m xyn dolostone.
BASE OF UNIT 9.70 TOP OF UNIT 10.00 THICKNESS 0.30

UNIT C4. Weathering Character prom. Colour WS mottled m grey and yellow brownish grey. FS aa but sl darker. Basal Contact abrupt, very sl wavy (wavelength 16 cm, amplitude 1 cm). A carb zone 1 cm thick occurs between C3 and C4. In places this zone is trans between the two units. Bedding Character mottled. Composition dolostone, dk mottles about 3 cm in size. Fossils only sparse poorly preserved corals.
BASE OF UNIT 10.00 TOP OF UNIT 13.50 THICKNESS 3.50

The contact between the Baillarge and Cape Crauford formations is taken as the boundary between units C4 and C5.

UNIT C5. Weathering Character semi-prom. Colour WS m brownish grey w/ yellowish brown surface staining. FS m brownish grey w/ irregular fine <1 mm dk grey streaks. Basal Contact abrupt, wavy. Bedding Character crenulated lams follow bedding. Bed/Lam Thickness min 1 cm, max 20 cm, mode 8 cm, beds pass from dominantly planar in lower 5 cm up into crenulated carb lams (in 3-dimensions), wavelength 12 cm, amplitude 3 cm. Composition dolostone, very sl carb. Fossils orthocones, randomly oriented on bedding planes, one is dolomitized, 18 mm long and 3 mm wide. C5 Sample/Slab/Thin Section Description (taken from middle of unit), fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; sl wavy lam, 1% spar between dolomite rhombs, 10% interxyn bitumen, 74% m xyn dolomite (75μm mode) w/ clear rims and inclusion-rich cores, 15% interxyn porosity. CL; uniform very dull red luminescent dolomite, interxyn spar luminesces bright orange. Rock Name: bitumenous m xyn dolostone.
BASE OF UNIT 13.50 TOP OF UNIT 14.90 THICKNESS 1.40

UNIT C6. Weathering Character semi-prom. Colour WS mottled white and m brownish grey breccia. FS m to dk brownish grey. Basal Contact trans over 5 cm, irregular. Bedding Character planar where unbrecciated. Some beds broken w/ dolomite xals to 1 mm separating beds. The uppermost metre is deformed into tepee-like structures. Bed/Lam Thickness min 1 cm, max 5 cm, mode 3 cm. Composition dolostone comprises clasts (all of the same litho), very minor brecciation within bed, gn/xtal size 0.5 mm, 'matrix' is calcite (bladed variety com), poorly preserved corals 10 cm by 2.5 cm high, in growth position, C6 Sample/Slab/Thin Section Description (taken 1 m abu), fresh surface colour; wk m olive-brown (10YR 5/2), composition; 1% spar fills dolomite-lined pores between clasts, dolomite between clasts is extremely c xyn (to 5 mm in size), dolomite in clasts has inclusion-rich cores and clear rims, 5% interxyn porosity, 60% breccia clasts larger than 2 mm in size, 10 cm max size, 2.5 cm modal clast size, clasts composed of m xyn dolostone w/ 2% brown opaque clay-sized inclusions. CL; breccia clasts luminesce very dull red and dolomite cement is non-luminescent. Tr bright orange-luminescent calcite overgrowths on non-luminescent cores. Rock Name: m xyn dolostone, locally c calcirudite-sized mosaic

breccia (extremely c xyn dolomite cement).
BASE OF UNIT 14.90 TOP OF UNIT 17.40 THICKNESS 2.50

UNIT C7. Weathering Character prom. Colour WS buff to m brownish grey stain. FS lt brownish grey. Basal Contact trans irregular. Bedding Character massive. Bed Thickness unit changes thickness laterally. Composition microxyn ls. Sedimentary Structures minor high-amplitude stylolites. Misc note that to date all ls has been dolomitized except for the f xyn ls. This may signify a permeability control to dolomitization. The unit is brecciated and changes thickness laterally. C7 Sample/Slab/Thin Section Description (rep litho sample), fresh surface colour; wk lt olive-brown (10YR 6/2), composition; 28% microspar, 65% f & m xyn spar, 2% interxyn brown opaque mat'l, 5% interxyn porosity, especially high near fractures. CL; 20% bright orange-luminescent spar overgrowths on non-luminescent cores. Rock Name: microsparitic f-c xyn sparite. Sample C7 taken for conodonts.
BASE OF UNIT 17.40 TOP OF UNIT 17.70 THICKNESS 0.30

UNIT C8. Weathering Character semi-prom. Colour WS m brownish grey. FS dk brownish grey. Basal Contact abrupt, wavy and deformed. Bedding Character planar, locally brecciated. Bed/Lam Thickness min 4 mm, max 2 cm, mode 1 cm, lams are paper thin, carb, lateral extent indet due to deformation. Composition ls w/ 5% carb mat'l. C8 Sample/Slab Description (unoriented due to friable nature), fresh surface colour; wk lt olive-brown (2.5Y 6/2), sedimentary structures; shiny dk brown slickensided surface, composition; breccia, 80% of the clasts are larger than 2 mm, 50% of clasts consist of microsparite and 30% consist of vf xyn dolostone, min clast size 2 mm, max 6 mm, 5% porosity, 15% m xyn sparite 'matrix'. Rock Name: f-m calcirudite-sized breccia; microsparite to vf xyn dolostone 'clast' m xyn sparite 'matrix' rubble breccia.
BASE OF UNIT 17.70 TOP OF UNIT 18.00 THICKNESS 0.30

UNIT C9. Weathering Character semi-prom (1 square m exposure). Colour WS buff to m brownish grey surface stain, FS m brownish grey. Basal Contact abrupt, wavy due to deformation. Bedding Character massive, locally brecciated. Bed Thickness indet due to its highly fractured nature. Composition microxyn ls.
BASE OF UNIT 18.00 TOP OF UNIT 18.50 THICKNESS 0.50

UNIT C10. Weathering Character rec covered interval.
BASE OF UNIT 18.50 TOP OF UNIT 19.00 THICKNESS 0.50

UNIT C11. Weathering Character semi-prom. Colour WS lt to m grey w/ yellowish brown irregular patches. FS lt brownish grey. Basal Contact covered. Bedding Character massive. Composition dolostone, porous and permeable, gn/xtal size <0.05 mm. Sedimentary Structures high-amplitude stylolites, some fractures lined w/ dolomite. C11 Sample/Slab/Thin Section Description (taken just below upper contact), fresh surface colour; wk lt olive brown (10YR 6/2), sedimentary structures; bedding, minor stylolites, 5% m xyn dolomitic veinlets, composition; vf xyn dolomite w/ 10% interxyn porosity, dolomite is pseudomorphic after gypsum xtals to 3 mm long, mat'l between pseudomorphs is vf xyn dolomite (89%), 1% pyrite. CL; dull red luminescent dolomite except for non-luminescent dolomite veinlets, one stylolite is moderately orange luminescent. Rock Name: interbedded vf xyn dolostone and dolomitic microsparite.
BASE OF UNIT 19.00 TOP OF UNIT 19.70 THICKNESS 0.70

UNIT C12. Weathering Character prom 4 m-wide outcrop. Colour WS lt to m grey w/ yellowish-brown irregular patches. FS m grey. Basal Contact abrupt, wavy (wavelength 1 m, amplitude 2 to 5 cm). Bedding Character wavy (wavelength 4 cm, amplitude 5 mm). Bed/Lam Thickness min 1 cm, max 25 cm. Composition microxyn fossiliferous calc dolostone. Fossils 1-2% poorly preserved brachs. Misc dolomite veinlets 2-3 mm thick throughout unit. C12 Sample/Slab/Thin Section Description (taken at base of unit), fresh surface colour; lt olive-brown (10YR 6/3), 2% ossicles, 3% spar between dolomite rhombs, 1% interxyn

bitumen, 2% brown opaque inclusions in dolomite rhombs, 91% m xyn (150μm mode) dolomite has inclusion-rich cores and clear rims, 3% interxyn sample porosity. CL; dull red luminescent inclusion-rich dolomite cores. Clear dolomite overgrowths are non-luminescent, tr bright orange luminescent subvertical veinlets. Rock Name: ossicle-bearing sl sparry m xyn dolostone.
BASE OF UNIT 19.70 TOP OF UNIT 20.70 THICKNESS 1.00

UNIT C13. Weathering Character prom. Colour WS interbedded dk grey and yellow-brownish grey (5 mm thick beds), yellowish brown to orangy staining on surface. FS dk grey. Basal Contact trans over 10 cm, planar. Bedding Character very wavy irregular, lensoidal. Bed/Lam Thickness min 2 cm, max 20 cm, mode 10 cm. Composition microxyn calc dolostone w/ high carb content, lams <1 mm to 1 cm thick, dk grey lams to 5 mm thick, good parting, therefore possibly argil. Sedimentary Structures lensoidal lumps, bedding of depositional origin, C13 Sample/Slab/Thin Section Description (taken from middle of unit), fresh surface colour; interlam wk vdk olive-brown (10YR 3/2) and wk xdk olive-brown (10YR 2/2), sedimentary structures; wavy lam, composition; 35% intraclasts, 29% microspar, 3% dispersed aphanoxyn to vf xyn dolomite, 3% carb film, 25% f xyn dolomite, 5% fracture/interxyn/stylolite porosity. CL; very dull red luminescent dolomite, calcite is non-luminescent. FLUOR; brown fluorescent residue along stylolites. Rock Name: m calcarenite (clastic): dolomitic (f xyn) intrasparite.
BASE OF UNIT 20.70 TOP OF UNIT 21.70 THICKNESS 1.00

UNIT C14. Weathering Character semi-prom. Colour WS buff w/ yellowish brown irregular staining. FS lt brownish grey. Basal Contact abrupt, wavy (5 cm wavelength and 5 mm to 1 cm amplitude). Bedding Character faint, accentuated by lt and dk beds and by white dolomite filling vugs, almost a lumpy type of bedding. Bed Thickness min 6 cm, max 17 cm, mode 10 cm, faint lams. Composition dolostone, 0.3 mm gn/xtal size, tr vugs of brach moulds. Fossils very poorly preserved articulated dolomitic brachs to 2 cm in size. C14 Sample/Slab/Thin Section Description fresh surface colour; wk lt olive-brown (10YR 6/2), composition; 5% orthocones and brach frags, 25% spar, 1% interxyn bitumen, tr pyrite, 69% m xyn dolomite (40μm mode) has clear rims and inclusion-rich cores, 15% interxyn porosity. CL; 2% bright orange-luminescent dolomite overgrowths on non-luminescent dolomite cores. FLUOR; 60% vug-filling zoned spar. Rock Name: fossil-bearing sparry f xyn dolostone.
BASE OF UNIT 21.70 TOP OF UNIT 22.60 THICKNESS 0.90

UNIT C15. Weathering Character semi-prom. Colour WS m grey w/ yellowish brown surface stains. FS m brownish grey. Basal Contact trans over 10 cm, wavy (wavelength 5 cm, amplitude 5 mm). Bedding Character wavy in 3 dimensions, (wavelength 5 cm, amplitude 5 mm). Bed/Lam Thickness min 5 mm, max 2 cm, mode 1 cm. Composition dolomitic ls, probably argil, carb films. C15 Sample/Slab/Thin Section Description fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; vague bedding, 50% rd intraclasts composed of microspar, 1 articulated ostracod to 250μm in size, 50% vf xyn spar, tr bitumen fills subvertical fractures, 1% pyrite, 20% f-m xyn dolomite (50μm mode) in zones that follow some lams, dolomite rhombs have clear rims and inclusion-rich cores, 3% fracture/interxyn porosity. CL; 15% bright orange-luminescent calcite overgrowths on non-luminescent spar cores exclusively in peloids. Dolomite between peloids is non-luminescent. Rock Name: vf-f calcarenite: dolomitic intrasparite.
BASE OF UNIT 22.60 TOP OF UNIT 22.80 THICKNESS 0.20

UNIT C16. An interbedded unit. Subunits C16a and C16b become more similar higher in the unit. Weathering Character prom. Colour WS interbedded m brownish grey and dk grey, former predominates, yellowish brown staining on surfaces. FS m brownish grey w/ dk grey. Basal Contact abrupt, wavy in 3-dimensions, (wavelength 4 cm, amplitude 5 mm). Bedding Character planar. Bed/Lam Thickness min 1 cm, max 40 cm, mode 10 cm, comprises 10% of sequence as a whole, other units faintly lam. Composition calc dolostone, chert nodule zone 6 m abu. Sedimentary Structures high-amplitude stylolites 6 m abu. C16a Sample/Slab/Thin

Section Description (taken from lower m of unit, thick m brownish grey units), fresh surface colour; lt olive-brown (10YR 6/3) sedimentary structures; vague bedding, m xyn spar veinlet, 3% inclusions, 82% m xyn spar-cemented dolostone (100μm mode), dolospar veinlet becomes a m xyn spar veinlet when it crosses a major stylolite, dolomite has clear rims and inclusion-rich cores, 15% interxyn porosity, is higher near stylolites. CL; non-luminescent. Rock Name: m xyn dolostone. C16b Sample/Slab/Thin Section Description (taken from lower m of unit, dk, lam and thinner bedded, dolomitic ls, comprises 45% of unit, fresh surface colour; m olive-brown (10YR 5/3), sedimentary structures; vague planar bedding, low amplitude stylolites, composition; microspar and f xyn spar (66%), 1% opaques along stylolites, 30% f xyn dolomite, 3% porosity along stylolites as well as interxyn porosity. CL; dull orange-luminescent dolomite, calcite is non-luminescent. Rock Name: dolomitic (f xyn) microsparite/f xyn sparite. C16c Sample/Slab Description (taken 6 m abu, contains fractured grey chert nodules), fresh surface colour; dk grey, sedimentary structures; papery parting along dk grey laterally continuous carb films, 66% microspar, 4% carb films, 25% vf xyn dolomite, 5% porosity between xtals and along stylolites. Rock Name: dolomitic (f xyn) microsparite.
BASE OF UNIT 22.80 TOP OF UNIT 29.60 THICKNESS 6.80

UNIT C17. Weathering Character semi-prom. Colour WS and FS buff. Basal Contact abrupt planar. Bedding Character crackle to mosaic breccia; 10 cm clast size mode. Composition calc dolostone breccia, (<0.1 mm xtal size, greenish clay-sized mat'l in vugs). Sedimentary Structures high-amplitude stylolites. C17 Sample/Slab/Thin Section Description fresh surface colour; m olive-brown (10YR 5/3), sedimentary structures; high-amplitude stylolites, composition; 10% interclast/fracture/stylolite porosity and 5% interxyn porosity, 45% breccia clasts larger than 2 mm, many clast boundaries are stylolites, min clast size 2 mm, max 25 mm, mode 11 mm, both 'clasts' and 'matrix' consist of 45% microspar and 45% f xyn spar (as clotted texture in both 'clasts' and 'matrix'). CL; tr bright orange-luminescent subvertical fractures. Rock Name: m calcirudite-sized breccia; stylolitic microsparite 'clast/matrix' breccia. C17a Sample/Slab/Thin Section Description (rep of main litho), contains orange-brown and yellow-green staining in and around vugs, fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; high-amplitude (to 15 mm) stylolites w/ considerable insoluble residue on seams that averages 400μm in thickness, composition; 24% microspar, 50% f xyn spar, 1% opaques, <1% c xyn dolomite near stylolites, 25% sample porosity consists of 15% interclast/stylolite porosity and 10% interxyn porosity. 'Clasts' and 'matrix' are difficult to distinguish. CL; irregularly-shaped dull orange-luminescent calc areas. Rock Name: vuggy microsparitic f xyn sparite crackle (stylo-) breccia. Sample C17b (taken of greenish clay-sized calc mat'l in and around vugs and staining breccia clasts).
BASE OF UNIT 29.60 TOP OF UNIT 32.10 THICKNESS 2.50

UNIT C18. Weathering Character prom. Colour WS and FS m brownish grey. Basal Contact abrupt, convex-up structures. Bedding Character lam. Bed/Lam Thickness mm thick lams. Composition microxyn calc dolostone. Sedimentary Structures high-amplitude stylolites and convex-up structures (3 cm wide and 3 cm high) at the base of the unit, also planar to sl wavy lam. Fossils large cup corals, 25% ossicles, various sizes w/ star-shaped axial canals, stromatoporoids and an orthoconic nautiloid, this fossiliferous zone is 0.75 m abu and contains abundant transported well-preserved fossils. C18 Sample/Slab Description (taken 0.75 m abu), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; vaguely bedded, high-amplitude (to 2 mm) stylolites, 23% fossils, consist of 10% ossicles, 4% solitary corals (2 cm in diameter and 3 cm high), one appears to have grown inside another solitary coral, 5% favositid corals, 4% tabular stromatoporoids, 59% microspar, 5% spar, 1% chert, 12% dolomite (of 2 types). The first type occurs along and near stylolites, is lt brown and m xyn (50μm mode). The second type is white c xyn dolomite. Porosity (fracture and interxyn) is 5%. Rock Name: dolomitic/sl sparry biomicrosparite. C18a Sample/Slab Description (taken just above the basal contact), fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; wavy and convex-up structures, 79% microspar, 1% bitumen 15% m xyn dolomite (mode 70μm) is concentrated and defines wavy and convex-up lams, 5%

fracture/interxyn porosity. Rock Name: dolomitic microsparite. C18b Sample Description (of an orthoconic nautiloid), fresh surface colour; m olive-brown (10YR 5/3). C18c Sample/Slab Description (unoriented), fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; low-amplitude stylolites, misc; minor fractures, composition; 15% rd intraclasts (mode 5 mm) consist of microspar, 5% solitary corals to 2 cm in diameter, 1% colonial corals, 10% ossicles (1 is 11 mm in diameter), also 1 stem (8 mm long) and 1 small orthocone, 44% microspar, 5% spar fills dolomite-lined vugs, tr chert occurs as small spherules to 100μm in diameter, total dolomite content is 15% and consists of 5% lt brown f xyn dolomite along stylolites and 10% white dolomite (100μm mode), 5% fracture and interxyn porosity. Rock Name: dolomitic/intraclastic/sl sparry biomicrosparite. C18d Sample/Slab/Thin Section Description fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; low-amplitude stylolites, composition; 10% intraclasts, 25% ossicles, 20% colonial corals, 15% microspar, 10% spar fills corallites, tr chert, 15% f xyn dolomite (50μm mode), 5% interxyn porosity. CL; non-luminescent except for bright orange-luminescent spar veinlets and large dull-luminescent dolomite xtals. FLUOR; zonation is com in spar filling corallites. Rock Name: dolomitic (f xyn) and sparry intraclastic biomicrosparite.
BASE OF UNIT 32.10 TOP OF UNIT 36.60 THICKNESS 4.50

UNIT C19. Weathering Character prom, an interbedded unit. Colour WS buff and m grey. FS m grey. Basal Contact trans. Bedding Character 50% thin beds, 50% thick beds, locally brecciated. Thin bedded unit has irregular lams, 5-10% carb mat'l. The interbedded nature is almost lost in the upper 2 m of the unit where it becomes thin-bedded throughout. Bed Thickness thinner beds range from 6 to 40 cm in thickness, the thicker beds have a 30 cm modal thickness. There are a total of 8 of the thin-bedded units. Composition calc dolostone. Sedimentary Structures tool or trough-like marks occur on bedding surfaces. Misc the stream cuts down along the axis of a minor syncline. C19 Sample/Slab/Thin Section Description (from the thinner bedded unit), fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; low-amplitude stylolites, composition; 40% intraclasts, 2% fossils, consist of 1 ostracod 4.5 mm across (valve is 75μm thick), 1 small gastropod and 2 ossicles, 20% peloids (composed of 15% microspar and 10% micrite), 20% f xyn spar, 1% bitumen, 7% dolomite (50μm modal size). CL; non-luminescent. FLUOR; geopetal spar filling ostracod is zoned. Rock Name: sl dolomitic peloidal intrasparite. C19a Sample/Slab/Thin Section Description (from the thicker bedded unit), fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; low-amplitude wispy stylolites, irregular lumpy bedding, composition; 20% ostracods and ostracod frags <0.5 mm, both articulated and disarticulated, 44% peloids (composed of microspar), 5% fracture-fill, 20% microspar, 1% bitumen, tr pyrite, 5% vf xyn dolomite, 5% porosity mainly along stylolites. CL; non-luminescent w/ the exception of tr subvertical bright orange-luminescent veinlets. FLUOR; tr fluorescent xtals inside ostracod. Rock Name: sl sparry ostracodal biopelmicrosparite.
BASE OF UNIT 36.60 TOP OF UNIT 41.90 THICKNESS 5.30

UNIT C20. (moved from west to east side of stream). Weathering Character semi-prom. Colour WS buff, dk and lt beds. FS overall lighter. Basal Contact abrupt, convex-up structures. Bedding Character massive, planar and laterally continuous over 1 m, lams from 1 to 4 mm thick. Composition calc dolostone, lower half of unit is c xyn w/ dolomite rhombs ranging to 0.7 mm (0.5 mm mode), minor carb flakes to 5 mm long and less than 1 mm thick, gn/xtal size is 0.2 mm in the upper half of the unit, locally brecciated (4 cm modal clast size). Sedimentary Structures local breccia, C20 Sample Description fresh surface colour; m olive-brown (10YR 5/3), sedimentary structures; planar lams, misc; porous and permeable, fractures, vugs to 400μm in size, composition; 20% spar, tr pyrite along fractures, 50% f xyn dolomite, some calcified dolomite, 30% porosity as vugs and between xtals but also along fractures, some vugs are filled w/ bitumen). CL; dull orange-luminescent spar. Rock Name: sparry f xyn dolostone.
BASE OF UNIT 41.90 TOP OF UNIT 42.10 THICKNESS 0.20

UNIT C21. Weathering Character prom, cavernous weathering at base of C21. Colour WS lt

grey to buff. FS aa but sl darker. Basal Contact abrupt, planar irregular. Bedding Character trans upward from rubble breccia to mosaic to crackle breccia and finally to unbrecciated strata of unit C22. Composition clast-supported breccia, 30% calc 'matrix', 70% calc dolostone 'clasts', modal clast size approx 2 cm, varies from 2 to 40 mm, poorly sorted, clast size generally uniform throughout (i.e., no large clasts), clasts ang to sbrd. Four m abu breccia is sl better sorted, occasional large clasts to 11 cm, 5% of clasts have calc lams, clasts rotated. This breccia is definitely of the bedded variety because it can be traced for many km along the inlet. C21 Sample/Slab/Thin Section Description (taken from base of unit), fresh surface colour; overall lt olive-brown (10YR 6/3), sedimentary structures; very high amplitude stylolites accentuated w/ up to 300μm thick dk grey residue, 1% vf and f xyn pyrite, 3% m-c xyn dolomite, 5% interclast porosity, 5% interxyn porosity, m xyn spar lines vugs, 60% of the breccia clasts consist of microspar and clotted microspar and f xyn spar, min clast size 2 mm, max 16 mm, mode 7 mm. CL; 2% bright-blue luminescent fluorite after dolomite, 5% bright orange-luminescent overgrowths on non-luminescent calcite cores. Rock Name: m calcirudite-sized breccia; stylolitic microsparitic/f xyn sparite breccia. Sample C21a contains a small orthocone, taken 0.5 m abu. Sample C21b (unoriented) taken from upper part of breccia within the trans zone.
BASE OF UNIT 42.10 TOP OF UNIT 62.90 THICKNESS 21.00

UNIT C22. Weathering Character prom. Colour WS m brownish grey. FS m grey. Basal Contact trans over at least 10 cm, highly irregular, degree of brecciation decreases across trans zone. Bedding Character planar irregular. Bed/Lam Thickness <1 cm to 9 cm, mode 5 cm, bed thickness in upper part of unit is about 2 cm. Composition microxyn ls, peloids form approx 50% of rock, are concentrated in beds 1 cm thick and are separated by sparsely peloidal zones. The peloidal litho is not seen in the underlying breccia. Dk grey chert beds are spaced 4 to 10 cm apart, are 2 cm thick and occur in the upper 2 m of the unit, peloid concentration decreases up toward the chert bed zone. Sedimentary Structures chert nodule-rich lams in upper part of unit. C22 Sample/Thin Section Description (rep litho sample), fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; low-amplitude stylolites (160μm max amplitude), misc; minor subvertical fractures, composition; 15% articulated ostracods to 1.2 mm in size, 72% microspar, 5% clear f-m xyn spar fills veinlets and pores, length-slow fibrous chalcedony nodules to 5 mm in size, 1% dk brown residue along stylolites, 2% dispersed dk brown insoluble mat'l, misc; stylolites drape around fibrous chalcedony nodules, 5% vf xyn dolomite, 5% interxyn porosity. CL; very dull green luminescent chert, very dull orange-luminescent calcite w/ the exception of one subvertical (calcite?) veinlet which has bright orange-luminescent overgrowths. FLUOR; lt brown fluorescent irregularly-shaped patches. Rock Name: sl dolomitic and chalcedonic ostracodal biomicrosparite. Sample C22 taken for conodonts.
BASE OF UNIT 62.90 TOP OF UNIT 65.50 THICKNESS 2.60

UNIT C23. Weathering Character semi-rec. Colour WS m brownish grey to buff. FS m brownish grey. Basal Contact abrupt, overall planar, irregular on a cm scale. Bedding Character crackle breccia. Composition clast-supported ls breccia, 'clasts' and 'matrix' are ls, clasts unlam, micritic, up to 5 cm in size, poorly sorted, mode approx 3 cm, high matrix porosity. Sedimentary Structures high-amplitude stylolites. C23 Sample/Slab/Thin Section Description fresh surface colour; m olive-brown (10YR 5/3), sedimentary structures; high-amplitude stylolites are accentuated by 50μm thick dk grey residue, 5% f-m xyn dolomite, minor c xyn quartz adjacent to stylolites, 2% porosity between clasts and along stylolites and 3% interxyn porosity, 70% breccia clasts composed of microsparite, pelmicrosparite and pelsparite, 2 mm min size, 30 mm max size, 13 mm modal size. CL; minor moderately blue-luminescent fluorite after dolomite especially along stylolites, some of the larger xtals are zoned. Calcite is generally very dull orange luminescent but there are about 2% bright orange luminescent calcite overgrowths along veinlets. FLUOR; brown mat'l fluoresces yellow. Rock Name: sl dolomitic (f-m xyn) microsparite/f xyn sparite crackle breccia.
BASE OF UNIT 65.50 TOP OF UNIT 65.65 THICKNESS 0.15

UNIT C24. Weathering Character semi-prom. Colour WS and FS lt buff to white. Basal Contact brecciated, very irregular. Bedding Character planar bedded, faint planar lams, locally brecciated (including breccia pipes). Bed/Lam Thickness min 1 cm, max 15 cm, mode 5 cm. Composition very soft dolostone. C24 Sample/Slab/Thin Section Description fresh surface colour; wk vlt yellowish-orange (10YR 7/2), sedimentary structures; low-angle cross-lams, misc; porous and permeable, 15% f-m xyn spar, 60% vf and f xyn dolomite, 25% interxyn and mouldic porosity. CL; 1% bright blue luminescent calcite, dolomite luminesces a dull orange but there are bright orange-luminescent overgrowths (1%). Rock Name: vuggy sparry vf and f xyn dolostone. C24a Sample/Slab/Thin Section Description (taken at the C24/25 contact), fresh surface colour; 80% breccia 'clasts' are wk vlt yellowish-orange (10YR 7/2) and 'matrix' is vwk lt olive-brown (10YR 6/1), misc; fractures, f xyn dolomite has clear rims w/ cores replaced by clear spar. Near fractures the spar has been removed. Sample porosity is 20% and consists of fracture and interxyn porosity and 10% as rhomb-shaped xtal moulds to 50μm-these were formed by calcification of dolomite cores followed by spar removal. CL; calcite generally luminesces dull orange, dolomite (w/ the exception of 2% blue-luminescent fluorite after dolomite) is mainly non-luminescent, tr scattered bright orange-luminescent overgrowths also occur on calcite. Rock Name: microsparitic vf xyn dolostone crackle breccia. BASE OF UNIT 65.65 TOP OF UNIT 66.40 THICKNESS 0.75

UNIT C25. Weathering Character prom. Colour WS and FS m brownish grey. Basal Contact brecciated, very irregular. Bedding Character planar, basal half of unit is sl wavy and locally brecciated. Bed/Lam Thickness min 4 cm, max 80 cm. Composition dolomitic ls, locally brecciated, includes 45° angle pipe. Fossils 15% ossicles, corals, bun-shaped stromatoporoids, unoriented in a continuous zone, <1% brachs and gastropods. A stromatolitic zone occurs 0.8 m abu, above this is the more fossiliferous mat'l. C25 Sample Description fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; stylolites w/ up to 2 mm amplitude, composition; 9% intraclasts composed of microspar, 50% bun-shaped stromatoporoids (6 cm wide and 5 cm high), 1% bryozoans, 5% ossicles, 5% colonial coral, some walls are composed of dolomite, 5% vf-m xyn dolomite, 5% interxyn porosity, 20% microspar. Rock Name: sl dolomitic intraclastic stromatoporoidal biomicrosparite. C25a Sample/Slab/Thin Section Description fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; low-amplitude stylolites, misc; 1% subvertical spar veinlets, composition; 1 small colonial coral frag 1 cm in size, 5% stromatoporoids, 2% brach frags (one 100μm thick plicated valve), 9% ossicles and 1 echinoderm plate, <1% ostracods, 15% peloids (50μm size mode), 20% micrite, 33% microspar and 5% spar as veinlets and pore-filling in corals and stromatoporoids, tr vf xyn disseminated pyrite, 5% f-m xyn dolomite, most along stylolites, 5% sample porosity (2% along stylolites and 3% between xtals in a zone near stylolites). CL; 5% bright blue luminescent fluorite after dolomite, some of which is zoned. Calcite is dull orange luminescent except for one bright orange luminescent ossicle. FLUOR; zoned spar filling corallites is com. Rock Name: sl dolomitic/micritic biopelmicrosparite. C25b Sample/Slab/Thin Section Description fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; minor but high-amplitude (to 4 mm) stylolites are accentuated by vdk grey residue to 40μm thick, composition; 10% poorly preserved gastropods to 3 cm in size, 30% ostracods all 1 mm or less in size, tr ossicles, 15% peloids (40μm mode, range 25-75μm), 12% microspar, 20% f-m xyn spar, 5% f xyn dolomite, 8% sample porosity (3% in fractures and along stylolites, 5% between xtals). CL; non-luminescent except for tr bright orange-luminescent subvertical veinlets. FLUOR; zoned vug-filling spar is com. Rock Name: sl dolomitic/microsparitic ostracodal biopelsparite. C25c Sample/Slab/Thin Section Description fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; high-amplitude (to 5 mm) stylolites accentuated w/ 25μm thick dk grey residue, misc; small sample, composition; 15% fossils (5% ossicles, 10% ostracods to 200μm in size, favositid coral), 15% peloids in corallites (size range 25-100μm), 15% microspar, 40% m xyn spar fills corallites, 1% bitumen, 2% chert replaces corallite walls, some microspar in ostracods and ostracod valves, 5% dolomite replaces part of favositid corallite walls, 7% porosity (in corallites and along fractures). CL; tr bright orange-luminescent overgrowths on calcite. FLUOR; spar filling corallites is zoned, corallite walls are well defined

by fluorescence. Rock Name: sl dolomitic/microsparitic biopelsparite. C25d Sample/Slab/Thin Section Description (taken 1 m abu, contains a small spheroidal stromatoporoid), fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; low-amplitude stylolites, composition; 48% fossils consist of 5% tabular stromatoporoids (20 by 5 mm) and 10% spheroidal stromatoporoids (30 mm in diameter), 3% brach frags, 30% ossicles, 15% peloids between 25 and 100μm in size w/ a mode of 50μm, 10% microspar, 15% spar in part as syntaxial overgrowths on ossicles, 2% quartz fills porosity in stromatoporoid, 5% dolomite (size 25μm), cores are calcified, 5% sample porosity as 3% along fractures/stylolites and 2% between xtals. CL; non-luminescent except for some blue-luminescent fluorite after dolomite. Rock Name: sl dolomitic/microsparitic/ stromatoporoidal biopelsparite. C25e Sample/Slab Description fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; minor 1 mm amplitude stylolites, composition; 40% intraclasts, 20% are rd and up to 10 by 8 mm in size, 20% are 100μm-sized rd clasts, 20% ossicles, 15% microspar and 15% spar, 5% dolomite and 5% porosity between xtals and along stylolites. Rock Name: sl dolomitic/microsparitic fossiliferous intrasparite.
BASE OF UNIT 66.40 TOP OF UNIT 69.00 THICKNESS 2.60

UNIT C26. Weathering Character prom. Colour WS varicoloured, 'clasts' m brownish grey, 'matrix' white to buff. FS aa but sl darker. Basal Contact abrupt, planar, very sl wavy. Bedding Character breccia. Sedimentary Structures a few convex-up structures in the larger dolostone 'clasts'. Composition breccia, large buff dolostone 'clasts' to 15 cm in size, mode 4 cm, base of unit contains 1 cm-sized clasts, there is an inverse grading of clast sizes. C26 Sample/Slab/Thin Section Description (taken 0.5 m abu), fresh surface colour; vlt yellowish-orange (10YR 7/3), composition; 25% interxyn porosity, 60% breccia clasts >>2 mm, clast size range is 2-30 mm, mode is 5 mm, 30% clasts are composed of porous f xyn dolostone, 30% clasts are sparry (f xyn) f-m xyn dolostone, 15% of clasts are dolomitic f xyn sparite, 1 chert clast, 'matrix' is dolomitic f xyn sparite. Spar was originally present between the dolomite and partly replaced dolomite along xtal edges. Much of this spar was subsequently dissolved and may have resulted in the collapse that formed the breccia. CL; 5% bright orange-luminescent overgrowths on calcite, 2% dull blue-luminescent fluorite after dolomite. FLUOR; dolomite is com zoned. Rock Name: m calcirudite-sized breccia; f xyn dolostone-f xyn sparite rubble breccia.
BASE OF UNIT 69.00 TOP OF UNIT 71.00 THICKNESS 2.00

UNIT C27. Weathering Character prom. Colour WS and FS m brownish grey w/ minor yellowish-brown surface stains. Basal Contact trans over 20 cm, irregular. Bedding Character planar irregular. Bed/Lam Thickness upper half of unit has 1 to 2 cm thick beds. Base is more thickly bedded, min 2 cm, max 15 cm, mode 5 cm. Very faint lam, not laterally continuous, mostly unlam. Composition ls. Misc minor slickensides. C27 Sample/Slab Description fresh surface colour; m olive-brown (10YR 5/3), sedimentary structures; stylolites to 4 mm amplitude are accentuated by 40μm thick dk grey opaque residue, composition; 85% microspar, 5% f-m xyn spar as subvertical fracture-filling veinlets, 5% dolomite, 5% porosity. Rock Name: sl dolomitic microsparite. Sample C27 taken for conodonts.
BASE OF UNIT 71.00 TOP OF UNIT 72.80 THICKNESS 1.80

UNIT C28. Weathering Character semi-prom. Colour WS and FS buff. Basal Contact abrupt, planar. Bedding Character wavy in 3 dimensions. Bed/Lam Thickness min 1 cm, max 3 cm, mode 2 cm, faintly lam in places, dk lams 3 mm thick, lt lams 1 to 2 mm thick. Composition dolostone w/ uniform 0.1 mm gn/xtal size. C28 Sample/Slab/Thin Section Description (taken from middle of unit), fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; low-angle cross-lam, misc; spar-filled fractures, composition; 75% f xyn dolomitic ooids range in size from 30 to 225μm and have a 75μm mode. In porous zones the ooid centers or more com a thin zone between the central fine and outer coarser xyn dolomite lamellae of the ooids are porous, 85% f xyn dolomite (50μm mode), 5% f-c xyn fracture and vug-filling spar, also pseudomorphs of a former six-sided xtal, 10% sample porosity, especially high

adjacent to fractures and stylolites, some lams have high porosity (both between and within ooids). CL; calcite luminesces a very dull orange and spar-veinlets are non-luminescent. Tr blue-luminescent fluorite after dolomite. FLUOR; spar filling vugs and fractures is zoned. Rock Name: cross-lam calcarenite; sl sparry oolitic dolostone.
BASE OF UNIT 72.80 TOP OF UNIT 73.20 THICKNESS 0.40

UNIT C29. Weathering Character prom. Colour WS and FS buff. Basal Contact abrupt, sl wavy. Bedding Character inversely-graded rubble breccia. Composition breccia, 70% 'clasts', 30% 'matrix', clast size (in basal 1 m) is 2 mm to 3 cm, mode 1 cm, no large clasts near base, clasts ang to sbang, subequant and randomly oriented. Misc the unit is traceable on the other (west) side of the stream where its lt colour is quite distinctive, also-large clasts of dolomitic ls occur at the top of the unit, however, there are no inclusions of the overlying unit C30 in this unit. 0.7 m abu 10% of clasts are 3 cm and larger and are randomly oriented, sbang to sbrd, and with the same litho as unit C28, another 15 cm long sbrd clast is subparallel to bedding and contains 3 cm-long chert nodules. Sbrd broken frags occur in upper 0.5 m which is m to dk brownish grey. C29 Sample/Slab/Thin Section Description (taken from base of unit where the breccia is poorly sorted), fresh surface colour; wk vlt yellowish-orange (10YR 7/2), composition; breccia, 60% of clasts are larger than 2 mm, clast size range is 2 to 18 mm w/ a 7 mm mode, 2% polyxyn quartz clasts, 70% f xyn dolostone clasts, 50% are very porous, f xyn sparite 'matrix'. Some clasts are entirely dissolved. There is extensive evidence of calcification of dolomite followed by dissolution of calcite. CL; calcite luminesces dull orange w/ 5% bright orange-luminescent overgrowths, dolomite is non-luminescent except for 2% scattered dull blue-luminescent fluorite after dolomite. Rock Name: m calcirudite-sized breccia; sparry ('matrix') vuggy dolostone 'clast' breccia.
BASE OF UNIT 73.20 TOP OF UNIT 75.00 THICKNESS 1.80

UNIT C30. Weathering Character prom. Colour WS m to dk brownish-grey. FS m brownish grey. Basal Contact irregular, unit C30 is downdropped on subvertical normal faults w/ displacement to 10 cm. Bedding Character planar, irregular. Bed/Lam Thickness min 1 cm, max 15 cm at base, mode 3 cm. Composition calc dolostone, gn/xtal size is 0.2 mm, contains 40% intraclasts. Thin fossiliferous zone near base. Sedimentary Structures dk grey chert nodules are 2.9 m abu. Fossils tr brachs, echinoderm stems to 5 mm long and ossicles, possibly minor ostracods, algal balls 2 cm long. C30 Sample/Slab Description (taken of rd intraclasts near base, litho sample is rep of basal 30 cm). fresh surface colour; wk vlt yellowish-orange (10YR 7/2), composition; 64% rd intraclasts ranging from 100 to 300μm in size, mode 200μm, composed of microspar, 3% ossicles, 3% ostracods, 20% spar, 5% f xyn dolomite concentrated along stylolites, 5% porosity. Rock Name: sl dolomitic fossiliferous intrasparite. C30a Sample Description (taken of large intraclasts 0.5 m abu), fresh surface colour; wk m olive-brown (10YR 5/2), composition; 15% ostracods, tr ossicles, 80% microspar, 5% interxyn porosity. Rock Name: ostracodal biomicrosparite. C30b Sample Description (ball-like structure), lt olive-brown (10YR 6/3), 90% f xyn spar, 10% porosity. Rock Name: f xyn sparite. C30c Sample/Slab/Thin Section Description (taken 3.4 m abu, contains 1 cm-sized intraclasts), fresh surface colour; m olive-brown (10YR 5/3), sedimentary structures; low-amplitude stylolites, composition; 10% ostracods to 1 mm in size, 40% peloids w/ a size range from 25 to 50μm and a mode of 35μm, 15% microspar, 25% spar between peloids, 5% dolomite, 5% porosity between xtals and along stylolites. CL; 5% multi-fold orange luminescent calcite overgrowths, calcite generally luminesces a very dull orange. Subvertical veinlets are also bright orange luminescent. Rock Name: sl dolomitic/microsparitic ostracodal pelsparite.
BASE OF UNIT 75.00 TOP OF UNIT 78.90 THICKNESS 3.90

UNIT C31. Weathering Character prom. Colour WS and FS buff beds interbedded w/ m to dk brownish grey beds. Basal Contact abrupt, sl planar to wavy. Bedding Character abrupt, sl wavy at base (stromatolites), locally brecciated. Bed/Lam Thickness min 1 cm, max 10 cm, mode 4 cm, very faint planar and sl wavy lams, 4 by 5 cm, hummocky structures are stromatolites. Composition microxyn dolostone. Sedimentary Structures high-amplitude

stylolites, locally brecciated.

Description of dk greyish bed. Bedding Character planar. Bed/Lam Thickness min 1 cm, max 6 cm, mode 3 cm, dk lams 8 mm thick, lt ones 3 to 4 mm thick, lams are laterally continuous for at least 40 cm. Composition calc dolostone, grey units form the majority of the interbedded units (about 70%), intraclasts (at least 30% on bedding surface) to one cm in size, high relief on bedding plane surfaces. Sedimentary Structures convex-up structures, (wavelength 0.5 m, amplitude 4 cm), overlain by individual 'digits' 1 cm wide and 3 cm high. grey chert nodules to 30 cm in size at base of unit. C31 Sample/Slab/Thin Section Description fresh surface colour; lt olive brown (10YR 6/3), sedimentary structures; 4 mm amplitude stylolites, lams vary laterally in thickness, misc; fractures filled w/ spar, composition; 62% peloids (25 to 75 μm in size, 50μm mode), 10% microspar, 20% spar as 5% spar veinlets filling fractures and 15% between peloids, tr pyrite, misc; tr f xyn spar is pseudomorphic after 1 mm long gypsum xtals, 3% f xyn dolomite, 5% porosity in fractures and along stylolites as well as between xtals. CL; non-luminescent except for tr bright orange-luminescent calcite overgrowths. Rock Name: sl dolomitic/microsparitic pelsparite. C31a Sample/Slab/Thin Section Description (rep of the brownish grey unit), fresh surface colour; m olive-brown (10YR 5/3), sedimentary structures; minor low-amplitude stylolites, 5% disarticulated ostracods or brachs, 77% peloids (25 to 50μm w/ a 35μm mode), 5% spar fills fractures, gastropods, and articulated ostracods, 8% dispersed f xyn dolomite, 5% porosity along fractures, stylolites and between xtals. CL; tr bright orange luminescent spar fills vugs. Rock Name: sl dolomitic/fossiliferous pelsparite. C31b Sample/Slab/Thin Section Description (of buff unit taken about 6 m abu, stromatolites(?) in a 10 cm thick zone), fresh surface colour; vlt yellowish-orange (10YR 7/3), sedimentary structures; digitate stromatolites, 'digits' 8 mm wide by 30 mm high, stylolites have amplitudes to 1 mm, composition; 10% intraclasts in interdigitate areas, size to 2 mm, mode is 0.2 mm, intraclasts composed of microspar, 35% peloids, 10% microspar, 40% f xyn spar, tr chert, 5% porosity between xtals/gns and along stylolites and fractures. CL; 10% bright orange-luminescent overgrowths on calcite line and fill vugs. Overgrowths occur only on the sides open to pore space. Tr blue-luminescent fluorite after dolomite. Rock Name: intraclastic/microsparitic pelsparite. C31c Sample/Slab Description (taken between convex-up structures), fresh surface colour; wk xlt yellowish-orange (10YR 8/2), sedimentary structures; cross-stratification, misc; tr fractures, composition; 20% f-m xyn spar between f xyn dolomite, spar is preferentially concentrated in a few mm thick lams and in fractures, 75% f xyn dolomite (originally gns?) with a 40μm size mode, 5% interxyn sample porosity. Rock Name: cross-stratified c dololutite; sparry dolostone. C31d Sample/Slab Description (of small stromatolite, taken about 2 cm above large stromatolites), fresh surface colour; m olive-brown (10YR 5/3), sedimentary structures; digitate stromatolites, clotted microsparite texture. It may be a pelmicrospar, 5% spar fills fractures, 3% bitumen, 5% f xyn spar fills moulds or replaces gypsum xtal laths to 10 mm long, 3% dispersed f xyn dolomite, 5% interxyn porosity. Rock Name: stromatolitic sl dolomitic/sl bitumenous/sparry clotted microsparite. C31e Sample/Slab/Thin Section Description fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; digitate stromatolites, misc; minor fractures, 15% intraclasts (to 300μm in size) occur between the digits of the stromatolites, 45% microspar and 25% spar in a clotted texture, 1% pyrite, fractures in part lined by spar, high inclusion percentage in stromatolites compared to sediment between digits. 4% f xyn dolomite as dispersed patches in stromatolites, dolomite to 80μm, rhombs in part calcified, especially the dolomite rhomb cores, 10% porosity as 3% fracture porosity and 7% interxyn porosity (especially high near fractures). CL; mat'l between non-luminescent stromatolites has bright orange-luminescent overgrowths on xtals/gns. Orange luminescent calcite overgrowths occur along subvertical fractures. 2% dull blue luminescent fluorite after dolomite is concentrated in coarser grained/xyn lams. Rock Name: intraclastic-rich microsparite/f xyn sparite.
BASE OF UNIT 78.90 TOP OF UNIT 89.50 THICKNESS 10.60

UNIT C32. Weathering Character prom (forms traceable ledge). Colour WS buff down valley and in inlet cliffs. FS m brownish grey. Basal Contact wavy, convex-up. Bedding Character

unbedded, wavy to hummocky, 1 m wide, faintly lam, locally brecciated. Bed Thickness 1 cm. Composition microxyn calc dolostone. Sedimentary Structures hummocky and convex-up structures (7 cm amplitude, 20 cm wide), high-amplitude stylolites near base, chert nodules to 30 cm in size. C32 Sample/Slab Description lt grey chert consists of spherules to 120μm in diameter, may represent replaced peloids, irregular thin brown streaks consist of lt brown spherules (original peloids?). C32a Sample/Slab/Thin Section Description (contains hummocky structures w/ high amplitude stylolites), fresh surface colour; wk vlt yellowish-orange (10YR 7/2), sedimentary structures; convex-up and wavy structures, misc; very high amplitude stylolites, composition; one stick bryozoan?, 35% microspar, 40% mainly f xyn spar but ranges to m xyn spar, 25% porosity as irregularly shaped vugs to 60μm in size, may be related to dissolution of ls (very high amplitude stylolites). CL; 3% pervasive but thin bright luminescent overgrowths on non-luminescent calcite cores. Rock Name: stylolitic microsparitic f xyn sparite.
BASE OF UNIT 89.50 TOP OF UNIT 90.90 THICKNESS 1.40

UNIT C33. Another interbedded grey and buff unit, similar to unit C31, however, stromatolites are not as abundant. Weathering Character prom. Colour WS and FS buff interbedded w/ m to dk brownish grey. Basal Contact abrupt. Bedding Character indet. Composition sl dolomitic ls to dolostone. Sedimentary Structures high-amplitude stylolites. C33 Sample/Slab/Thin Section Description (taken from basal 2.5 m thick dk grey intraclastic zone), fresh surface colour; mottled vlt yellowish orange (10YR 7/3) and wk m olive-brown (10YR 5/2), sedimentary structures; tr stylolites w/ amplitudes to 1 mm, composition; 30% fossils consist of 5% articulated ostracods to 13 mm, in size w/ 400μm thick valves, geopetal structure (spar at top, pelspar below in articulated ostracods), 20% undifferentiated bioclastic mat'l, mainly shell frags, 5% stromatoporoid frags, tr ossicles, tr gastropods, 25% peloids (100 to 250μm, mode 150μm), 5% microspar, 5% spar, tr pyrite, 30% dolomite (35μm mode), dolomitic areas are mottled, boundaries between dolomitic mottles and pure ls are stylolitic and sharp, 5% interxyn porosity. CL; fossil frags are non-luminescent, calc mat'l between fossil frags luminesces dull red, one large ostracod is filled w/ zoned orange-luminescent spar. Tr blue-luminescent fluorite after dolomite. Rock Name: dolomitic/sl sparry biopelmicrosparite. C33a Sample/Slab/Thin Section Description (taken from thicker bedded zone in middle of overlying buff subunit), fresh surface colour; wk xlt yellowish orange (10YR 8/2), 60% rd dolomitic intraclasts (to 35 mm long and 8 mm wide), 15% m to c xyn spar between intraclasts, 25% porosity between intraclasts, high percentage of rhombohedral pores within intraclasts, some dolomite rhombs are dissolved. CL; 3% bright orange-luminescent calcite overgrowths on non-luminescent calcitic cores. Intraclasts have a very dull pink luminescence. FLUOR; spar filling vugs is zoned. Rock Name: vuggy dolomitic intrasparite. C33b Sample/Slab/Thin Section Description (taken from next overlying grey unit), fresh surface colour; vlt yellowish orange (10YR 7/3), sedimentary structures; mottles are separated from each other by low-amplitude stylolites and consist of pelspar (dk) and f xyn spar (lt), modal mottle size is 3 mm, approx 45% dk mottles, 55% lt intermottle mat'l, 60% peloids, 25% f-m xyn spar, <1% pyrite, 5% dispersed f xyn dolomite (most is calcified), 10% porosity along fractures and between xtals, interxyn porosity is highest near fractures. CL; 2% bright orange-luminescent calcite overgrowths in vugs, some of which are filled w/ dull orange-luminescent calcite. About 3% dull blue-luminescent clear fluorite after dolomite is scattered uniformly throughout the sample. Rock Name: mottled sl dolomitic pelsparite. C33c Sample/Slab/Thin Section Description (taken from buff subunit about 5 m abu), fresh surface colour; wk vlt yellowish-orange (10YR 7/2), sedimentary structures; lam/thin bedded, composition; 1% carb flakes, 1% spar, tr malachite staining, 73% f xyn dolomite (mode 30μm) some of which has been calcified (some of this calcite may have later been dissolved), 25% porosity. CL; non-luminescent except for a few bright orange-luminescent dolomite xtals. Rock Name: f xyn dolostone.
BASE OF UNIT 90.90 TOP OF UNIT 98.20 THICKNESS 7.30

UNIT C34. Weathering Character prom. Colour WS lt brownish grey. FS m brown. Basal Contact hummocky (amplitude 30 cm). Bedding Character 15 cm wide hummocky and wavy

structures, locally brecciated. Bed Thickness one bed, thin brown lams. Composition calc dolostone, 4-5% carb content, black chert nodules are elongate subparallel to bedding, upper 10 cm is ls, perhaps secondary calcite, possibly brecciated and hummocky. Sedimentary Structures; high-amplitude stylolites. C34 Sample/Slab/Thin Section Description fresh surface colour; m olive-brown (10YR 5/3), sedimentary structures; high-amplitude stylolites, 15% microspar, 61% spar, 10% length slow chalcedony nodules and spherules to 2 cm long, elongate spherules have a radial fibrous texture, 4% patch of dolomite (30μm xtal size mode), 10% porosity along fractures and stylolites, porosity also in chert nodules/spherules and between xtals, interxyn porosity is especially high near fractures/stylolites. CL; non-luminescent except for 3% dull blue-luminescent uniformly scattered fluorite after dolomite. Rock Name: sl dolomitic/brecciated chert nodular f xyn sparite.
BASE OF UNIT 98.20 TOP OF UNIT 98.80 THICKNESS 0.60

UNIT C35. Weathering Character rec covered interval.
BASE OF UNIT 98.80 TOP OF UNIT 101.20 THICKNESS 2.40

UNIT C36. Weathering Character prom. Colour WS buff. FS m brownish grey. Basal Contact covered. Bedding Character convex-up structures, locally brecciated, small domal structures at base grade up to large hummocky structures (10 cm long by 3 cm high) about 2 m abu. 6 m abu convex-up structures are 2.5 m wide and 0.3 m high. Bed/Lam Thickness min <1 mm, max 40 cm, mode 25-30 cm. Composition calc dolostone, lam, 1 thin dk brownish carb lam. Sedimentary Structures local breccia, convex-up structures to 2.5 m wide and high-amplitude stylolites. C36 Sample/Slab/Thin Section Description (of convex-up structure taken from base of unit), fresh surface colour; vlt yellowish orange (10YR 7/3), sedimentary structures; high-amplitude (to 2 mm) stylolites, hummocky convex-up structures, 20% microspar, 50% f xyn spar, 10% m xyn spar lines fractures and stylolites, 10% f xyn dolomite (30μm mode) is concentrated in hummocky structures and is partly calcified, 10% porosity (5% along stylolites and fractures and 5% between xtals). Interxyn porosity is especially high adjacent to stylolites and fractures. CL; 3% bright orange-luminescent calcite overgrowths w/ complex zonation fills fractures and vugs. 3% dull blue-luminescent fluorite after dolomite, some of which is concentrated along veinlets. Rock Name: dolomitic/microsparitic f xyn sparite.
BASE OF UNIT 101.20 TOP OF UNIT 108.70 THICKNESS 7.50

UNIT C37. Weathering Character semi-prom. Colour WS and FS white. Basal Contact hummocky. Bedding Character brecciated (inaccessible exposure). C37 Sample/Slab/Thin Section Description fresh surface colour; wk xlt yellowish orange (10YR 8/2), low-amplitude stylolites, composition; breccia, ang 'clasts' are bounded by stylolites such that these are solution breccia clasts, 35% coated gns, 2 w/ concentric lamellae (0.2 mm in size), most are relict moulds (15%) or coated gn moulds filled w/ variously dolomitic spar (20%), mould size-0.5 mm, 15% spar fills moulds of dissolved coated gns(?), tr pyrite and <1% chert fills moulds of coated gns(?), 50% dolomite 'clasts' consist of 20% aphanoxyn dolomite and 30% vf and f xyn dolomite, limpid dolomite lines some vugs many of which are filled w/ spar. Calcification of dolomite by spar is com, 25% porosity as coated gn moulds, along fractures and stylolites, interxyn porosity is especially high near fractures and stylolites. CL; non-luminescent except for 1% bright orange-luminescent spar filling vugs. Rock Name: vuggy and sparry coated gn aphanoxyn to f xyn dolostone.
BASE OF UNIT 108.70 TOP OF UNIT 109.30 THICKNESS 0.60

UNIT C38. Weathering Character semi-prom. Colour WS and FS mottled, lt and m brownish grey. Basal Contact abrupt, perhaps planar. Bedding Character massive, bioturbated. Composition calc dolostone, bioturbated ('tubes'), mottle patches to 2 cm in size. Sedimentary Structures 'worm tubes'. Fossils sparse brachs. C38 Sample/Slab/Thin Section Description (taken from middle of unit, note 'worm tubes'), mottled m olive-brown (10YR 5/3) and lt olive-brown (10YR 6/3), sedimentary structures; lt olive brown calc dolomite mottles to 2 cm in size in which 1 mm diameter 'worm tubes' are concentrated. The m olive-brown mottles consist mainly of clotted and peloidal sparite. Wispy low-amplitude

stylolites occur throughout the rock, composition; tr undifferentiated shell frags, 1 articulated ostracod, 30% peloids, 25% microspar and 15% spar in a clotted texture, 20% dolomite, 1 mm diameter 'worm tubes' are filled w/ sparry f-m xyn dolomite, some are lined w/ clear 100μm-sized dolomite rhombs and filled with spar, calcified dolomite is com, 10% porosity beween xtals and along stylolites. CL; calcite and fossil frags are non-luminescent, dolomite luminesces a very dull red. Rock Name: dolomitic pelmicrosparite/f xyn sparite. C38a Sample/Slab Description (taken from middle of unit, contains brachs), fresh surface colour; wk lt olive-brown (10YR 6/2), 2% brachs one of which is 9 mm wide and cf *Atrypoidea*, 3% ostracods, 30% m xyn dolomite, 60% microspar, 5% porosity.
BASE OF UNIT 109.30 TOP OF UNIT 111.50 THICKNESS 2.20

UNIT C39. Weathering Character semi-prom. Colour WS and FS m brownish grey. Basal Contact trans over 10 cm, planar. Bedding Character planar irregular. Bed Thickness min 1 cm, max 5 cm, mode 2 cm. Composition intraclastic dolomitic ls, 50% intraclasts range from 1 to 4 mm in size. C39 Sample/Slab/Thin Section Description (taken from middle of unit, contains possible intraclasts and/or 'worm tubes'), fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; minor low-amplitude stylolites, 2% undifferentiated frags to 5 mm, shells 120μm thick, 53% peloids, 15% microspar, 10% f-m xyn spar, tr pyrite, 15% m xyn dolomite (mode 70μm) occurs preferentially in sparry areas between peloids, calcification of dolomite is com, 5% porosity along stylolites and between xtals, especially in a zone adjacent to stylolites. CL; non-luminescent. Rock Name: dolomitic/sparry pelmicrosparite.
BASE OF UNIT 111.50 TOP OF UNIT 112.20 THICKNESS 0.70

UNIT C40. Weathering Character semi-rec. Colour WS m grey. FS m brownish grey. Basal Contact trans over 10 cm, intraclasts decrease upwards in abundance. Bedding Character mottled. Bed Thickness thin bedded near upper contact. Composition sparsely fossiliferous ls, mostly bioturbated. Sedimentary Structures hummocky structures. Sample C40 (conodonts) taken.
BASE OF UNIT 112.20 TOP OF UNIT 112.40 THICKNESS 0.20

UNIT C41. Weathering Character semi-prom. Colour WS buff to white. FS buff. Basal Contact sl wavy (wavelength 20 cm, amplitude 2 cm), irregular. Bedding Character wavy, convex-up structures, contorted bedding (20 cm wide and 10 cm high). Bed/Lam Thickness min 1 cm, max 4 cm, mode 1 to 2 cm, faintly lam. Composition calc dolostone, minor carb mat'l (<1%).
BASE OF UNIT 112.40 TOP OF UNIT 112.80 THICKNESS 0.40

UNIT C42. Weathering Character semi-prom. Colour WS lt buff. FS vlt brownish grey. Basal Contact abrupt, convex-up. Bedding Character planar. Bed/Lam Thickness min 4 cm, max 10 cm. Composition calc dolostone, fossiliferous. Sedimentary Structures coated gns, vugs. Fossils sparse brachs. C42 Sample/Slab/Thin Section Description (taken from upper contact), fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; coated gns to 20 mm long, most are elongate parallel to bedding, stylolites, com occur only within coated gns which display internal solution microunconformities. In some cases outer lamellae have been moved to center of coated gn by dissolution within the coated gn, composition; 60% coated gns, modal size 1.3 mm, range 0.2 to 20 mm, 20% microspar, 10% f xyn spar, some coated gns have multiple nuclei, 5% f xyn dolomite (30μm mode), 5% fracture/interxyn/ vuggy porosity. CL; coated gns luminesce a very dull orange-red, mat'l between coated gns is non-luminescent. There are one or two hairline fractures filled w/ bright orange-luminescent calcite. Rock Name: sl dolomitic/sparry (cement) coated gn microsparite. Sample C42a of small brach (7 mm wide), one specimen cf. *Atrypoidea*.
BASE OF UNIT 112.80 TOP OF UNIT 113.20 THICKNESS 0.40

UNIT C43. Weathering Character semi-prom. Colour WS lt buff. FS vlt brownish grey. Basal Contact trans wavy, wavelength 1.5 m, amplitude 2 cm. Bedding Character planar. Bed

Thickness 2 beds, each 35 cm thick. Composition dolostone w/ a 0.1 mm gn/xtal size. Fossils brach shell frags <1% of rock, a few are still articulated (<1%), valves to 1 cm in size. C43 Sample/Slab Description fresh surface colour; wk vlt yellowish-orange (10YR 7/2), 5% undifferentiated shell frags, 1 articulated ostracod 2.5 mm wide, filled w/ dolomitic spar, 10% microspar/spar, 70% f xyn dolomite (50µm mode), 15% interxyn porosity. Rock Name: microsparitic/fossiliferous f xyn dolostone.
BASE OF UNIT 113.20 TOP OF UNIT 113.90 THICKNESS 0.70

UNIT C44. Weathering Character semi-prom. Colour WS and FS buff. Basal Contact abrupt, planar. Bedding Character wavy and convex-up. Bed/Lam Thickness min 3 cm, max 22 cm, mode 7 cm. Composition dolostone, 0.2 mm modal gn/xtal size. Sedimentary Structures club-shaped convex-up structures, mottled (burrowed unit) just below convex-up structures (local occurrence). C44 Sample/Slab/Thin Section Description (of club-shaped stromatolitic structure), fresh surface colour; vlt yellowish orange (10YR 7/3), sedimentary structures; convex-up club-shaped stromatolitic structure, 20 cm high, 12 cm wide, composition; 40% microspar, 4% spar, 1% gypsum xtal moulds (some swallowtail) to 8 mm long, interlam f-m xyn dolostone and microsparite, lams 0.2-1 mm thick, 50% f-m xyn dolomite, 10% interxyn porosity, minor gypsum moulds in part filled w/ clear f xyn spar. CL; dolomite luminesces a very dull red, calcite is mainly non-luminescent w/ the exception of spar filling gypsum xtal moulds which have bright orange-luminescent calcite overgrowths. Rock Name: microsparitic/sl sparry f xyn dolostone. C44a Sample/Slab Description fresh surface colour; wk vlt yellowish-orange (10YR 7/2), sedimentary structures; large convex-up stromatolitic structure (10 cm high by 8 cm wide), 25% microspar, 70% f-m xyn dolomite, 5% interxyn porosity. Rock Name: microsparitic f-m xyn dolostone.
BASE OF UNIT 113.90 TOP OF UNIT 115.15 THICKNESS 1.25

UNIT C45. Weathering Character semi-prom (extensively weathered). Colour WS and FS m brownish grey. Basal Contact wavy. Bedding Character indet, possibly planar irregular. Bed/Lam Thickness possibly 2 cm mode. Composition calc dolostone, probably bioturbated and intraclastic, rd intraclasts (1 to 2 mm in size), comprise 50% of unit. C45 Sample/Thin Section Description (taken from middle of unit), fresh surface colour; mottled vlt yellowish orange (10YR 7/3 and wk lt olive-brown (10YR 6/2), sedimentary structures; stylolites, 30% peloids, 13% microspar, 5% spar, 45% f-m xyn dolomite (mode 50µm), dolomitic mottles are separated from sparry pelmicrosparitic areas by stylolites, 7% porosity along fractures and stylolites and between xtals (especially high near stylolites and fractures). CL; spar between calc peloids is non-luminescent, peloids themselves luminesce a very dull red. There is one bright orange-luminescent hairline fracture. Rock Name: mottled pelmicrosparitic f-m xyn dolostone.
BASE OF UNIT 115.15 TOP OF UNIT 116.55 THICKNESS 1.40

UNIT C46. Weathering Character semi-prom. Colour WS and FS buff (basal 2 m or more is m brownish grey). Basal Contact mainly scree covered but possibly trans, planar. Bedding Character convex-up structures (20 cm wide and 10 cm high). Bed/Lam Thickness min 1 cm, max 25 cm, mode 10 cm, lams dk and lt (1 to 2 mm thick). Composition calc dolostone, coated gns in basal 2 m are intraclastic and c gn. Sedimentary Structures small convex-up structures (20 cm wide and 10 cm high), high-amplitude stylolites. C46 Sample/Slab/Thin Section Description (taken 1 m abu), fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; high-amplitude stylolites, boundaries of coated gns and relict pelmicrospar are stylolites, composition; 50% coated gns w/ multiple nuclei, some are superficial coatings. In some coated gns the superficial coating is faulted due to compaction, dissolution or both, 10% microspar between coated gns and relict peloids, 25% f-c clear spar between coated gns and relict pelmicrosparite, spar is elongate perpendicular to gn boundaries. tr pyrite, tr f xyn dolomite, 15% porosity (10% as vugs to 2 mm, 5% porosity between coated gns and between xtals). FLUOR; spar between peloids is vaguely zoned. Rock Name: coated gn (pelmicrosparitic) sparite. C46a Sample/Slab/Thin Section Description (taken of convex-up structures 2.8 m abu), fresh surface colour; lt olive-brown (10YR 6/3),

sedimentary structures; convex-up structure (part of club-shaped stromatolite), minor low-amplitude stylolites, 60% peloids consist of microspar, peloids range from 30 to 200μm in size and have a 50μm mode, 15% microspar, 10% f-c xyn spar, 15% porosity in vugs (to 6 mm in size) and along stylolites. CL; non-luminescent. Rock Name: sparry pelmicrosparite. C46b Sample/Slab/Thin Section Description (contains convex-up structures, taken 30 cm abu), fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; high-amplitude (to 2 mm) stylolites com truncate coated gns, 60% coated gns to 5 mm in size are composed of pelmicrospar, approx 30% have multiple nuclei. 5% microspar, 29% spar, tr pyrite, 1% f xyn dolomite, 1 rhomb is calcified, 5% porosity between xtals and as small vugs to 0.5 mm in size, porosity com occurs between the coatings and the central pelmicrospar of the coated gns. CL; tr bright blue-luminescent fluorite after dolomite. Coated gns luminesce very dull and spar between them is non-luminescent. Rock Name: microsparitic coated gn f-m xyn sparite.
BASE OF UNIT 116.55 TOP OF UNIT 120.35 THICKNESS 3.80

UNIT C47. Weathering Character prom. Colour WS and FS m brownish grey. Basal Contact trans over 5 to 10 cm, hummocky. Bedding Character indet, planar irregular w/ cross-strata (strike 105°, dip 20°N. Composition calc dolostone, 50% 1 to 2 mm rd intraclasts. Sedimentary Structures intraclasts and cross-stratification. Sample C47 cross-bedding of intraclasts, fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; cross-bedding (1 set is 40 cm thick) and normal graded bedding, detrital carbonate ranges in size from m calcirudite to c calcilutite, composition; 30% rd intraclasts to 5 mm in size, composed of microspar to dolomitic microspar, tr shell frags, 60%, dolomite (50μm), calcilutite-sized mat'l has been preferentially dolomitized, larger mm-sized intraclasts consist of either microspar or dolomitic microspar, 10% porosity between xtals and clasts. Rock Name: cross-stratified m calcirudite to c calcilutite (overall calc dolostone).
BASE OF UNIT 120.35 TOP OF UNIT 121.05 THICKNESS 0.70

UNIT C48. Weathering Character rec buff unit, mostly covered. Basal Contact abrupt planar.
BASE OF UNIT 121.05 TOP OF UNIT 121.30 THICKNESS 0.25

UNIT C49. Weathering Character semi-prom. Colour WS and FS m brownish grey. Basal Contact abrupt, sl wavy. Bedding Character indet, possibly planar irregular. Composition calc dolostone, probably bioturbated, rd intraclasts 1 to 2 mm in size comprise 50% of rock. C49 Sample/Slab Description (taken from middle of unit), fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; 15% lt grey chert nodule 4 by 1 cm, elongate parallel to bedding, composition; 50% rd intraclasts to 1 cm long (6 mm mode), composed of microspar, tr brach frags to 3 mm, 45% f-m xyn dolomite between intraclasts, 5% interxyn porosity. Rock name: mottled chert nodular m calcirudite: intraclastic f-m xyn dolostone.
BASE OF UNIT 121.30 TOP OF UNIT 122.10 THICKNESS 0.80

UNIT C50. Weathering Character semi-prom. Colour WS and FS buff. Basal Contact abrupt planar. Bedding Character low angle cross-bedding. Composition dolomitic ls. Sedimentary Structures low angle crossbedding, dip to east, high-amplitude stylolites. C50 Sample/Slab/Thin Section Description (of cross-stratification), fresh surface colour; interbedded dolostone (lt olive brown, 10YR 6/3) and ls (wk m olive-brown, 10YR 5/2), sedimentary structures; cross-bedded, sets approx 30 mm thick, 1 mm amplitude stylolites separate calc dolostone from dolomitic microsparite, also moderate bioturbation (mm-sized tubes), misc; minor subvertical f xyn spar veinlets, composition; 12% intraclasts to 3 mm in size, 1 stick bryozoan frag-zooecia are 150μm in diameter, 10% microspar between dolomite rhombs, 3% spar, 60% f xyn inclusion-rich dolomite, minor calcification of dolomite and minor vug-lining m xyn clear dolomite, vugs filled in part by spar, 15% interxyn porosity, tr vugs along fractures. CL; overall very dull red luminescent dolomite w/ the exception of one calc veinlet which has thin bright luminescent overgrowths on calcite. Rock Name: cross-stratified intraclastic f xyn dolostone.
BASE OF UNIT 122.10 TOP OF UNIT 122.30 THICKNESS 0.20

UNIT C51. Weathering Character semi-prom (extensively weathered). Colour WS and FS m brownish grey. Basal Contact abrupt, planar. Bedding Character indet, possibly planar irregular. Composition calc dolostone. Sedimentary Structures changes to mottled unit laterally. C51 Sample/Slab/Thin Section Description (taken from trans zone below upper contact), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; minor low-amplitude wispy laterally discontinuous stylolites, composition; 1% brach frags, 2 mm long, one is sl plicated, tr ostracods to 125μm in size, 50% peloids range from 35-200μm in size, mode is 50μm, 10% microspar and 9% mainly f xyn spar between peloids, 25% f xyn dolomite (40μm mode) occurs preferentially between peloids and com contains microspar ghosts or microspar inclusions, 5% porosity (interxyn and along stylolites). CL; non-luminescent. Rock Name: sparry/dolomitic (f xyn) pelmicrosparite.
BASE OF UNIT 122.30 TOP OF UNIT 123.40 THICKNESS 1.10

UNIT C52. Weathering Character semi-prom. Colour WS and FS buff. Basal Contact trans. Bedding Character hummocky and wavy. Bed Thickness min 1 cm, max 3 cm, mode 2 cm. Composition calc dolostone. Sedimentary Structures hummocky and wavy structures, 20 cm wide, 3 cm amplitude.
BASE OF UNIT 123.40 TOP OF UNIT 123.90 THICKNESS 0.50

UNIT C53. Weathering Character semi-prom. Colour WS and FS m brownish grey. Basal Contact wavy, stromatolitic. Bedding Character indet, possibly planar irregular. Composition calc dolostone, in part intraclastic. Sedimentary Structures wavy structures are very small (3 cm wide) in upper half of unit, separated by 3 cm.
BASE OF UNIT 123.90 TOP OF UNIT 124.40 THICKNESS 0.50

UNIT C54. Weathering Character semi-prom. Colour WS and FS buff. Basal Contact abrupt, wavy, hummocky. Bedding Character hummocky. Bed Thickness min 1 cm, max 25 cm, mode 10 cm. Composition calc dolostone. Sedimentary Structures hummocky structures.
BASE OF UNIT 124.40 TOP OF UNIT 124.70 THICKNESS 0.30

UNIT C55. Weathering Character semi-prom. Colour WS and FS m brownish grey. Basal Contact obscured. Bedding Character hummocky, wavy. Bed Thickness mode 2 cm. Composition calc dolostone. C55 Sample/Slab/Thin Section Description (taken from middle of unit), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; bioturbation (1 mm 'tubes') and larger mottles, composition; 15% intraclasts to 15 mm long, composed of pelspar, 40% microspar, 5% spar, tr pyrite, 35% f xyn dolomite, mode 50μm, some dolomite is replaced by clear spar, 5% sample porosity consists of interxyn porosity mainly in dolomitic areas, porosity also occurs along stylolites. CL; non-luminescent. Rock Name: dolomitic/sl sparry intramicrosparite.
BASE OF UNIT 124.70 TOP OF UNIT 125.00 THICKNESS 0.30

UNIT C56. Weathering Character semi-prom. Colour WS and FS buff. Basal Contact abrupt, wavy. Bedding Character wavy. Bed/Lam Thickness min 1 mm, max 25 cm, mode 10 cm, 1 mm thick lams are dk and lt. Composition calc dolostone. Sedimentary Structures small wavy structures. C56 Sample/Slab/Thin Section Description fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; mottles, low-angle cross-lam, 23% microspar, 2% spar, 70% f-m xyn dolomite (50μm mode), partially calcified to microspar, 5% interxyn porosity. CL; non-luminescent. Rock Name: cross-lam microsparitic f-m xyn dolostone.
BASE OF UNIT 125.00 TOP OF UNIT 125.40 THICKNESS 0.40

UNIT C57. Weathering Character semi-prom. Colour WS and FS grey. Basal Contact trans over 5 cm. Composition dolomitic ls. Sedimentary Structures moderately bioturbated. C57 Sample/Slab/Thin Section Description (taken from base of unit), fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; 4 mm wide 'tubes' on bedding plane surfaces, moderate bioturbation, also minor wispy laterally discontinuous stylolites, 25% microspar, 1% clear spar lines fractures, tr opaque metallic minerals, 69% f-m xyn dolomite

(mode 40μm), com calcified to microspar, 5% sample porosity along fractures, stylolites and between xtals. CL; an overall very dull red luminescence. Rock Name: microsparitic f-m xyn dolostone.
BASE OF UNIT 125.40 TOP OF UNIT 125.90 THICKNESS 0.50

UNIT C58. Weathering Character rec covered interval.
BASE OF UNIT 125.90 TOP OF UNIT 131.65 THICKNESS 5.75

UNIT C59. Weathering Character prom. Colour WS and FS m brownish grey. Basal Contact covered. Bedding Character planar irregular, 1 to 2 m abu there is an extensively bioturbated zone w/ burrows to 1 cm in size. One m above orange weathering bed (3.9 m abu) there is a mottled unit that becomes less mottled higher in the sequence, the upper 3.3 m of the unit is not bioturbated. Bed/Lam Thickness min 1 cm, max 0.5 m, mode 4-5 cm, fractures obscure bed thickness. Composition calc dolostone, contains chert nodules, dk grey, elongate parallel to bedding, 5 cm long by 2 cm thick, rd, <1% of outcrop, 20-30% intraclasts, fossiliferous. Two m abu there is a 2 cm thick orange weathering bed, Sedimentary Structures bioturbation and chert nodules, high-amplitude stylolites. Fossils brachs throughout, echinoderm stems and ossicles. C59 Sample/Slab/Thin Section Description fresh surface colour; mottled wk lt olive-brown (10YR 6/2) and wk m olive-brown (10YR 5/2), sedimentary structures; bioturbation-1 mm sized 'tubes' are com subparallel to bedding, wispy low-amplitude stylolites, 7% fossils consist of 1% ossicles, 1% ostracods, 5% undifferentiated shell frags, tr algae w/ cellular structure, 38% peloids range in size from 25-80μm, 10% micrite, 10% micropar, 15% spar, tr pyrite, 15% dolomite near stylolites, corrosion and replacement of dolomite by microspar is com, 5% interxyn porosity. CL; 60% moderate orange-luminescent calcite overgrowths on peloids. Spar between peloids is non-luminescent. Rock Name: micritic/microsparitic/ fossiliferous dolomitic pelsparite. C59a Sample Description one small articulated brach 6 mm wide, one 2 mm diameter 'tube') on bedding plane. C59b Sample/Slab/Thin Section Description (rep litho sample), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; high-amplitude (1 mm) stylolites, composition; 40% rd intraclasts to 10 mm, 20% fossils consist of tr undifferentiated shell frags, 15% articulated ostracods (mode is 0.5 mm in size), 35% f-c xyn spar, tr pyrite, 5% porosity along stylolites, fractures and between xtals (high near stylolites and fractures). CL; very dull orange-luminescent peloids, spar cement has a bright orange-luminescent zone (5%). FLUOR; lt brown fluorescent peloids, mat'l between peloids is non-fluorescent. Rock Name: ostracodal intrasparite. C59c Sample/Slab Description (taken from extensively bioturbated lower part, 3.5 m abu), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; minor stylolites, composition; 10% rd intraclasts to 10 mm in size, composed of pelmicrospar, tr undifferentiated shell frags, 20% peloids, 35% microspar, 5% spar, tr pyrite, 25% f xyn dolomite (mode 30μm) near stylolites, 5% interxyn porosity. Rock Name: intraclastic dolomitic/ pelmicrosparite.
BASE OF UNIT 131.65 TOP OF UNIT 138.85 THICKNESS 7.20

UNIT C60. Weathering Character rec covered interval.
BASE OF UNIT 138.85 TOP OF UNIT 140.95 THICKNESS 2.10

UNIT C61. Weathering Character prom. Colour WS and FS lt grey. Basal Contact covered. Bedding Character irregular to planar. Bed/Lam Thickness min 1 cm, max 20 cm. Sedimentary Structures desiccation breccia and polygonal mud cracks 10 to 30 cm across. Composition calc dolostone. C61 Sample/Slab Description (taken of a desiccation breccia w/ polygonal desiccation cracks), fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; polygonal desiccation cracks, composition; 69% rd intraclasts to 5 mm in size, mode 0.5 mm, intraclasts composed of microspar, 1% pyrite, 25% generally vf and f xyn dolomite between clasts, 5% interxyn porosity. Rock Name: intraclastic vf-f xyn dolostone (overall dolomitic ls). Sample C61a contains polygonal mudcracks.
BASE OF UNIT 140.95 TOP OF UNIT 142.25 THICKNESS 1.30

UNIT C62. Weathering Character semi-rec. Colour WS and FS lt grey. Basal Contact abrupt, contains a desiccation breccia and mudcracks. Bedding Character planar. Bed/Lam Thickness lam, papery, upper 6 cm is brecciated. Composition dolomitic ls, probably argil. C62 Sample/Slab Description (desiccation breccia from top 6 cm of unit), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; polygonal desiccation cracks, desiccation breccia/intraclasts, mm planar lam, composition; 30% rd intraclasts to 20 mm in size (3 mm mode) composed of sl dolomitic to dolomitic microspar, 40% microspar, 5% spar fills subvertical fractures and occurs between desiccation clasts, 15% vf-f xyn dolomite concentrated in mm lams parallel bedding, also occurs preferentially between desiccation clasts, 10% porosity along bedding planes and fractures, minor interxyn porosity. Rock Name: dolomitic intramicrosparite.
BASE OF UNIT 142.25 TOP OF UNIT 142.65 THICKNESS 0.40

UNIT C63. Weathering Character semi-prom. Colour WS and FS lt grey. Basal Contact trans over 5 cm. Bedding Character laterally distorted bedding, kink bands, brecciated in places. Bed Thickness min 1 cm, max 10 cm, mode 7 cm. Composition microxyn calc dolostone w/ 2-3% thin carb lams. Sedimentary Structures chert nodules. C63 Sample/Slab/Thin Section Description (taken from top of unit), fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; low-amplitude stylolites, composition; 20% micrite, 55% microspar, 10% f xyn spar in fractures, 5% vf-f xyn dolomite, replaces spar, 10% porosity along stylolites, fractures, and between xtals/gns. CL; 3% blue-luminescent fluorite after dolomite occurs preferentially inside gypsum xtal 'ghosts' and along stylolites. Rock Name: sl dolomitic/micritic and sparry microsparite.
BASE OF UNIT 142.65 TOP OF UNIT 143.15 THICKNESS 0.50

UNIT C64. Weathering Character semi-prom. Colour WS buff. FS lt greyish buff. Basal Contact abrupt planar, a 3 cm thick carb unit occurs at the contact separating C63 and C64. Bedding Character wavy (wavelength about 2.5 cm, amplitude 8 mm). Bed/Lam Thickness unbedded but lt and dk faint lams 1 mm thick contain microunconformities, lams vary in thickness laterally. Composition sl calc dolostone, gn/xtal size max 0.3 mm, mode 0.2 mm. Chert nodules (fractured) m grey-3 cm abu, 1 cm long, 3 cm thick. Sedimentary Structures chert nodules. C64 Sample/Slab/Thin Section Description (taken from middle of unit), fresh surface colour; lt olive-brown (10YR 6/3), composition; 20% f-m xyn spar, fills dolomite-lined fractures, 50% vf-f xyn dolomite is mainly cloudy and inclusion-rich, dolomite also occurs in sparry areas and lines fractures and vugs, 30% of the porosity is interxyn. CL; 5% bright orange-luminescent overgrowths on spar, otherwise the sample is very dull red luminescent. Rock Name: sparry (f xyn) vf xyn dolostone.
BASE OF UNIT 143.15 TOP OF UNIT 143.45 THICKNESS 0.30

UNIT C65. Weathering Character prom. Colour WS buff. FS lt buff. Basal Contact wavy. Bed/Lam Thickness min 1 cm, max 12 cm, mode 4 cm, bed thickness varies laterally. Sedimentary Structures 10 cm-long irregularly shaped elongate, rd chert nodules 10 cm long. C65 Sample/Slab/Thin Section Description (taken from bedded chert nodule zone 40 cm abu), fresh surface colour; wk xlt yellowish orange (10YR 8/2) and lt grey, sedimentary structures; lt grey chert nodule 10 by 5 cm, elongate parallel to bedding, misc; fracture cuts both dolostone and chert nodule, composition; 20% elongate intraclasts, 15% microspar and f xyn spar, chert nodule contains relict mainly vf xyn texture of dolomite, 50% mainly inclusion-rich vf xyn dolomite, minor limpid f xyn dolomite lines vugs and fractures, f-m xyn spar fills vugs and fractures, 15% porosity between xtals, along fractures, and partly as intraclast moulds. CL; tr blue-luminescent fluorite after dolomite, silicified fossils are non-luminescent, otherwise chert generally luminesces very dull red. Rock name: chert nodular/microsparitic/ intraclastic vf xyn dolostone.
BASE OF UNIT 143.45 TOP OF UNIT 144.05 THICKNESS 0.60

UNIT C66. Weathering Character semi-prom. Colour WS and FS m grey. Basal Contact abrupt, wavy (wavelength 20 cm, amplitude 1 cm). Bedding Character wavy. Bed/Lam

Thickness 1 mm thick but very indistinct. Composition calc dolostone, microxyn, 3% carb film. C66 Sample/Slab/Thin Section Description (taken from upper half of unit), fresh surface colour; m olive-brown (10YR 5/3), sedimentary structures; minor low-amplitude stylolites, wavy bedding (wavelength 2 cm, amplitude to 1 cm), 65% peloids (composed of microspar), range 50-150μm, mode 100μm, 20% microspar, 5% f xyn spar between peloids and along fractures, 1% fibrous chalcedony spherules (length-slow), some concentric lams are very porous, 2% vf xyn dispersed dolomite, 7% porosity, (especially high near stylolites and fractures). CL; tr blue-luminescent fluorite after dolomite xtals, overall a very dull orange-red luminescence w/ the exception of bright orange-luminescence along stylolites and numerous subvertical 'hairline' fractures. FLUOR; tr zonation of vug-filling spar. Rock Name: sl sparry pelmicrosparite.
BASE OF UNIT 144.05 TOP OF UNIT 144.20 THICKNESS 0.15

UNIT C67. Weathering Character semi-prom. Colour WS and FS buff. Basal Contact abrupt, planar. Bedding Character dominantly planar, sl wavy. Bed/Lam Thickness min 4 mm, max 2 cm, mode 8 mm. Composition dolostone, gn/xtal size 0.1 mm mode, chert bed occurs 20 cm abu, also sl vuggy, spar to 4 mm in size lines vugs. Sedimentary Structures bed contains dk grey chert nodules 13 cm long by 3 cm thick, elongate parallel to bedding, sbrd, lams not destroyed, m to dk grey, irregular. C67 Sample/Slab Description fresh surface colour; wk xlt yellowish orange (10YR 8/2), sedimentary structures; vugs, 5% f-c xyn vug-lining spar, 80% aphano/vf xyn dolomite, 15% interxyn porosity. Rock Name: sl sparry aphano to vf xyn dolostone. C67a Sample/Slab/Thin Section Description fresh surface colour; wk xlt yellowish-orange (10YR 8/2) w/ grey to dk grey chert nodules, sedimentary structures; lt grey chert nodule, wavy lam of dolomite, nodule is subparallel bedding and cuts across wavy lam (wavelength 6 cm, amplitude 1 cm), 5% spar to 200μm in size, 1% pyrite to 200μm in size within the periphery of the chert nodule, quartz replaces spar along interxyn boundaries near chert nodule, misc; chert replaces dolomite, 20% aphanoxyn inclusion-rich dolomite, 55% vf xyn inclusion-rich dolomite, 5% vf-f xyn clear dolomite lines vugs that are filled w/ spar, 15% interxyn porosity in dolomite. CL; chert is interlam very dull red and non-luminescent, tr bright orange-luminescent spar. Rock Name: sl sparry, cherty vf xyn dolostone.
BASE OF UNIT 144.20 TOP OF UNIT 145.30 THICKNESS 1.10

UNIT C68. Weathering Character semi-prom. Colour WS and FS m brownish grey. Basal Contact abrupt wavy, probably stromatolitic (wavelength 45 cm, amplitude 4 cm). Bedding Character very sl wavy, 15 cm abu there is a zone which may be a desiccation breccia, desiccation cracks directly above these, excellent bedding plane parting. Bed/Lam Thickness min 1 cm, max 10 cm, mode 3 cm, 1 mm thick lams, lt and dk bands follow bedding planes, brecciated in places. Composition microxyn dolomitic ls, clasts to several cm in size, desiccation cracks occur in outcrop. Sedimentary Structures poorly developed polygonal desiccation cracks just above breccia, polygons 8 cm across. Misc excellent bedding plane parting. C68 Sample/Slab Description (taken of polygonal desiccation cracks, unoriented sample 0.4 m abu), fresh surface colour; lt olive-brown (10YR 6/3), composition; 55% intraclasts, tr pyrite, 35% vf xyn dolomite, 5% f xyn dolomite, 5% interxyn porosity. Rock Name: microsparitic intraclasts in a vf xyn dolomite 'matrix'.
BASE OF UNIT 145.30 TOP OF UNIT 146.10 THICKNESS 0.80

UNIT C69. Weathering Character semi-prom. Colour WS and FS m brownish grey. Basal Contact abrupt, very sl wavy. Bedding Character planar, sl wavy, in part irregular. Bed/Lam Thickness min 3 cm, max 10 cm. Composition calc dolostone, 0.2 mm carb parting is well developed. Sedimentary Structures high-amplitude stylolites. C69 Sample/Slab/Thin Section Description (rep litho sample), fresh surface colour; m olive-brown (10YR 5/3), sedimentary structures; high-amplitude stylolites (to 2 mm), composition; 10% stick bryozoan frags, 1 brach frag, 85% peloids and peloid aggregates, peloids range from 25-200μm in size and have a 100μm mode, 20% f and m xyn spar, tr pyrite, misc; bryozoans are cigar-shaped to 8 mm long by 2 mm wide, zooecia are filled w/ spar, 5% vf and f xyn dolomite preferentially near stylolites, interxyn porosity is especially high near stylolites and fractures. CL; 1%

blue-luminescent fluorite after dolomite occurs mainly in dasyclad algae, 2% bright orange luminescent overgrowths on spar along subvertical fractures and in dasyclad algae. Rock Name: sl dolomitic/stick bryozoan pelsparite. C69a Sample/Slab Description (contains 'worm tubes'), fresh surface colour; m olive-brown (10YR 5/3), sedimentary structures; high-amplitude stylolites to 2 mm, accentuated by black residue to 125μm thick, composition; 1 brach valve, 2 'worm(?) tubes' to 40 mm long and 2 mm in diameter, 64% peloids (composed of microspar), 25% spar, 1% dolomite, 10% interxyn porosity. Rock Name: pelsparite.
BASE OF UNIT 146.10 TOP OF UNIT 146.30 THICKNESS 0.20

UNIT C70. Weathering Character semi-prom. Colour WS and FS buff. Basal Contact abrupt, wavy, (wavelength 10 cm, amplitude 1 cm). Bedding Character wavy irregular, crackle breccia. Bed/Lam Thickness min 2 cm, max 4 cm, mode 3 cm. Composition very sl calc dolostone, gn/xtal size 0.3 mm. C70 Sample/Slab/Thin Section Description (taken from middle of unit), fresh surface colour; wk vlt yellowish orange (10YR 7/2), misc; many fractures, 30% f-c xyn spar fills fractures and space between clasts, dolomite consists of inclusion-rich and poor dolomite, clear dolomite is vf-f xyn and lines spar-filled vugs, 15% porosity between xtals and clasts, 55% breccia clasts larger than 2 mm in size are composed of porous (20%) aphanoxyn (10%) and vf xyn (45%) dolomite. CL; 1% blue-luminescent clear fluorite after dolomite is concentrated between breccia clasts. 3% bright orange-luminescent and zoned calcite overgrowths on clear non-luminescent spar cores. Dolomitic clasts have a 'cloudy' dull pink luminescence. Rock Name: sparry vf xyn dolostone 'clast' f-m xyn 'matrix' crackle breccia.
BASE OF UNIT 146.30 TOP OF UNIT 146.50 THICKNESS 0.20

UNIT C71. Weathering Character semi-prom. Colour WS mottled white and m brownish-grey. FS m grey. Basal Contact wavy, irregular (wavelength 20 cm, amplitude 2 cm). Composition microxyn calc dolostone. Sedimentary Structures high-amplitude stylolites immediately abu, Misc; rock is well indurated. C71 Sample/Slab/Thin Section Description (taken from base of unit), fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; high-amplitude stylolites to 3 mm, accentuated by dk grey residue to 50μm thick, composition; 15% m calcarenite-sized (300μm mode) ooids and superficial ooids, 1 stick bryozoan frag, 25% peloids range in size from 25 to 150μm (mode 50μm), 9% micrite, 20% microspar, 25% f-c xyn spar, 1% dispersed vf xyn dolomite, 5% porosity along stylolites, fractures and xtals/gns. CL; 1% bright orange-luminescent zoned overgrowths on clear spar in vugs and subvertical fracture-filling veinlets. Peloids have a 'cloudy' dull pink luminescence and spar between peloids is non-luminescent. Rock Name: coated gn microsparitic pelsparite.
BASE OF UNIT 146.50 TOP OF UNIT 146.65 THICKNESS 0.15

UNIT C72. Weathering Character rec covered interval.
BASE OF UNIT 146.65 TOP OF UNIT 149.65 THICKNESS 3.00

The top of C72 is taken as the contact between the upper and lower members of the Cape Crauford Formation.

UNIT C73. Weathering Character semi-prom. Colour WS and FS mottled buff and m brownish grey. Basal Contact covered. Bedding Character mottle pattern parallels bedding and is possibly due to bioturbation. Bed/Lam Thickness min 8 cm, max 16 cm, mode 10 cm. Composition dolostone, 5-10% vugs concentrated along bedding planes (3 cm long, 2 cm high and filled w/ white dolomite). Sedimentary Structures very minor wavy structures. Misc very well indurated, note this unit is similar to the mottled unit at the base of the section. C73 Sample Description fresh surface colour; lt brownish olive (2.5Y 6/3), sedimentary structures; mottles to 2 cm in size, vugs where parts of some mottles have been dissolved, composition; minor undifferentiated shell frags, 2% f-m xyn spar, 78% m xyn dolomite (100μm mode) has cloudy cores and clear rims, 20% sample porosity as 5% vugs (to 1 cm in size) and 15% between xtals (high near stylolites and fractures). CL; a very dull 'cloudy' orange-red

luminescence w/ the exception of some clear ostracod-filling dolomite which has bright luminescent and zoned xtals. FLUOR; com zoned dolomite. Rock Name: vuggy/mottled f-m xyn dolostone.
BASE OF UNIT 149.65 TOP OF UNIT 151.95 THICKNESS 2.30

UNIT C74. Weathering Character rec covered interval.
BASE OF UNIT 151.95 TOP OF UNIT 157.65 THICKNESS 5.70

UNIT C75. Weathering Character semi-prom. Colour WS and FS buff and m brownish grey. Basal Contact covered. Bedding Character indistinct. Bed/Lam Thickness min 8 cm, max 20 cm, mode 15 cm. Composition dolostone. Fossils sparse ossicles and 1 poorly preserved orthocone frag (3 cm long, 2 cm across). C75 Sample/Slab/Thin Section Description (taken 1.25 m abu, contains an orthocone frag), fresh surface colour; vlt orangy yellow (2.5Y 7/3), sedimentary structures; mottles, vugs to 1 cm, composition; 22% fossils (dolomitic) consist of 2% ossicles, one 4 cm long frag of an orthocone siphuncle, 20% articulated ostracods to 1 mm in size (25μm thick valve), 1 bryozoan frag, 3% f-m xyn spar fills fractures and some vugs, total 55% f xyn dolomite, some of which has clear rims and inclusion-rich cores, 5% clear dolomite fills ostracods, and lines vugs and fractures. 20% sample porosity (5% vugs to 1 cm in size and 15% porosity between xtals). CL; 10% bright multi-fold zoned orange-luminescent overgrowths on limpid dolomite in ostracods and subvertical fractures. Otherwise, the sample has a dull orange-red 'cloudy' luminescence. Rock Name: vuggy ostracodal f xyn dolostone.
BASE OF UNIT 157.65 TOP OF UNIT 159.40 THICKNESS 1.75

UNIT C76. Weathering Character rec covered interval.
BASE OF UNIT 159.40 TOP OF UNIT 160.00 THICKNESS 0.60

UNIT C77. Weathering Character prom. Colour WS and FS mottled buff and lt brownish grey, orange weathering minor, tr green weathering (malachite?). Basal Contact covered. Bedding Character mottle elongation is parallel to bedding. Composition dolostone, 10% subequant vugs to 2 cm in size. Misc extensively fractured.
BASE OF UNIT 160.00 TOP OF UNIT 163.00 THICKNESS 3.00

UNIT C78. Weathering Character prom. Colour WS and FS buff. Basal Contact trans over 0.5 m into an unmottled unit. Bedding Character small wavy structures 3 by 3 cm, sl convex up. Composition dolostone. Fossils very poorly preserved corals and 5% ossicles. C78 Sample/Slab/Thin Section Description (taken from base of unit), fresh surface colour; vlt orangy yellow (2.5Y 7/3), sedimentary structures; vugs, composition; 5% dolomitic stromatoporoid (1 frag 15 by 5 mm), 1 ossicle and echinoderm plate frag, tr spar, 1% bitumen fills vugs, tr malachite staining, 71% m xyn inclusion-rich dolomite (mode 125μm), 3% clear f-c xyn dolomite lines fractures, some rhombs have alternating inclusion-rich and poor zones, 20% sample porosity (consists of 5% vugs to 0.5 mm in size and 15% along stylolites and between xtals/gns). CL; dull orange-luminescence, clear overgrowths on dolomite are mainly non-luminescent but there are areas w/ thin moderate orange-luminescent clear overgrowths (5%). FLUOR; pervasive complexly-zoned dolomite. Rock Name: vuggy fossiliferous m xyn dolostone.
BASE OF UNIT 163.00 TOP OF UNIT 170.50 THICKNESS 7.50

UNIT C79. Weathering Character rec. Basal Contact obscured. Bedding Character massive. Composition calc dolostone. C79 Sample/Slab/Thin Section Description (of litho and concretion), fresh surface colour; vlt orangy yellow (2.5Y 7/3), sedimentary structures; dk brown spherical concretionary structure to 4 cm in size, central part is powdery-white carbonate, half of thin section is of 'concretion', 24% fossils (dolomitic), comprises 2% ossicles, one plicated brach(?) frag (inside concretion), 2% stromatoporoids (inside 'concretion'), 20% undifferentiated shell frag moulds, 1% dispersed f xyn spar, spar also lines stylolites and fractures, tr pyrite, tr chert concretion, contains better preserved shell frags, 55% m xyn dolomite, 30-125μm, 70μm mode, dolomite in 'concretion' is vf xyn (10μm

mode), in porous areas dolomite has clear rims and some rhombs are corroded, 20% sample porosity consists of 5% undifferentiated shell frag moulds, especially in 'concretion', 5% fracture/stylolite porosity, and 10% interxyn/interclast porosity. CL; dolomite generally luminesces dull pink and chert is non-luminescent. There are, however, moulds of ossicles in the chert that are filled w/ zoned brightly luminescent dolomite. Rock Name: concretionary fossiliferous m xyn dolostone. C79a Sample/Slab/Thin Section Description (of 10 cm-wide 'concretion'), fresh surface colour; vlt orangy-yellow (2.5Y 7/3), sedimentary structures; chert nodule to 10 by 5 cm, composition; 38% silicified intraclasts (silicified microspar), 5% articulated ostracods to 700μm in size, 1% sponge(?) spicules, 1 gastropod, and 1 stick bryozoan frag, 19% silicified microspar, 15% silicified spar, tr pyrite just inside the boundary of the chert nodule, xtals to 125μm, oxidized, 2% bitumen, 79% chert (subequant quartz xtals mainly 10μm in size, preserves carbonate textures), 20% porosity along stylolites and between xtals. CL; overall dull red luminescence w/ the exception of non-luminescent spar between peloids and 1% zoned orange-luminescent spar filling vugs. FLUOR; large white fluorescent dolomite xtals. Rock Name: chert nodule consists of silicified ostracod-bearing sparry intramicrosparite.
BASE OF UNIT 170.50 TOP OF UNIT 170.70 THICKNESS 0.20

D. FIELD AND SAMPLE DESCRIPTIONS FOR SECTION D, PORT BOWEN, MEASURED IN 1982.

Locality: North Shore Port Bowen.
Latitude: 73°13'45"N.
Longitude: 88°56'30"W.

Base of section D is within member B of the Baillarge Formation, 24.5 m asl.
The start of section D is 13.3 km SW of section A, 10.8 km SW of section B and 11.2 km SW of section C. Base camp is at lat. 73°14'26"N, long. 89°01'36"W.

UNIT D1. Weathering Character semi-prom. Colour WS and FS mottled buff and m to dk grey (mottles 2 cm in size). Basal Contact covered. Bedding Character wavy irregular. Bed/Lam Thickness min 7 cm, max 30 cm, mode 15 cm. Composition dolostone w/ laterally discontinuous carb films 1 to 2 cm long and 0.3 mm thick, homogeneous composition throughout. 1.5 m abu mottles are replaced by dk grey and black chert (very minor % of outcrop). Vugs (3-5%, most <1 cm in size) are associated w/ dissolution of fossils, vugs lined w/ dolomite xtals to 2 mm in size. Sedimentary Structures rare limonitic nodules (may be replaced chert nodules). Mottles become larger 2 m abu and less distinct 2.5 m abu. Sl greenish weathering at bed contacts, tr residue along stylolites. Fossils basal 1 m contains 5-10% fossils including 1% stromatoporoids (7 cm by 5 mm) which weather buff. Orthocones 8 cm long w/ sutures occur 1.5 m abu. Brach (1%) fauna (including spiriferid forms) occurs in the vicinity of orthocones. Ostracod moulds of disarticulated convex-up valves, 2-3 mm across. Colonial coral occurs 30 cm above orthocone zone. At this level there is a faunal change into gastropod-rich beds. Three gastropod long-axes are perpendicular to bedding, two have long axes parallel to bedding. Nine gastropods in a 30 by 20 cm square area. 20-30% fossils 2.5 m abu. Gastropods w/ solitary corals 2.75 m abu. Cross-section of coral is 1.5 cm across, 40% fossils consist of gastropods, brachs and undifferentiated fossil frags. Misc very well indurated. D1 Sample/Slab/Thin Section Description (of stromatoporoid 0.7 m abu), fresh surface colour; mottled lt olive-brown (10YR 6/3) and wk m olive-brown (10YR 5/2), sedimentary structures; low-amplitude wispy stylolites, vugs, irregularly-shaped mottles. 5% dispersed ossicles, 3% undifferentiated shell frags, 3 articulated ostracods, and 1 dk brown 3-dimensional graptolite frag, tr m xyn spar, tr malachite staining, tr pyrite to 1.5 mm in size, irregularly-shaped xtal aggregates, tr bitumen in vugs, 2% interxyn brown insoluble mat'l, total 73% dolomite, consists mainly of 70% inclusion-rich f xyn dolomite (50μm mode), 3% clear f-c xyn dolomite lines vugs, inclusion-rich dolomite has intergrown xtals,

corrosion of dolomite is com especially in porous dolomitic mottles, 25% interxyn sample porosity preferentially occurs in the lt olive brown mottles. CL; limpid dolomite lining vugs is non-luminescent, tr clear spar filling vugs is zoned orange-luminescent. Overall, dolostone luminesces very dull red. Rock Name: mottled fossil-bearing f xyn dolostone. D1a Sample Description (taken 2.4 m abu), mottled dolostone, contains a spiriferid f costate brach 24 mm wide. D1b Sample/Slab/Thin Section Description (taken 2.6 m abu from gastropod-rich zone), fresh surface colour; mottled lt olive-brown (10YR 6/3) and m olive-brown (10YR 5/2), sedimentary structures; wispy low-amplitude stylolites are accentuated by 1% brown insoluble residue, composition; 17% fossils (dolomitic), consist of 2% favositid coral frags to 20 mm in size, 10% brach frags, 5% articulated ostracods to 2.5 mm in size and 5% ossicles, 2% f xyn spar, tr pyrite, 1% interxyn bitumen, 66% inclusion-rich f xyn dolomite ($35\mu m$ mode) is corroded in porous dolomitic areas, 5% clear dolomite lines and partly fills some vugs, spar fills the remainder, 1 ossicle has a dolomite overgrowth. 25% sample porosity is distributed as 15% between xtals/gns and 10% as moulds (especially dissolved articulated ostracods). CL; generally non-luminescent, however, non-luminescent limpid dolomite-lined vugs are filled w/ zoned spar. Rock Name: mottled sl sparry/fossiliferous f xyn dolostone. D1c Sample/Slab/Thin Section (contains a moderately well-preserved gastropod), fresh surface colour; m olive-brown (10YR 5/3), sedimentary structures; low-amplitude stylolites, 5% ossicles, 10% ostracods to 1.5 mm in size, 3% f xyn spar, 1% bitumen, 3% residue between and within xtals and along stylolites, 53% inclusion-rich f xyn dolomite, 2% clear dolomite lines spar-filled fractures, 25% porosity (5% mouldic and fracture porosity, and 20% interxyn). CL; tr vugs are lined w/ non-luminescent limpid dolomite and filled w/ bright orange-luminescent spar. Otherwise the sample luminesces a very dull orange. Rock Name: sl sparry fossiliferous f xyn dolostone. D1d Sample/Slab Description (taken 2.6 m abu), fresh surface colour; mottled lt olive-brown (10YR 6/3) and m olive-brown (10YR 5/2), sedimentary structures; low-amplitude stylolites, composition; 15% fossils (dolomitic) consist of a colonial coral, 5% ostracods to 3 mm in size, 5% cup corals to 2 cm diameter, 5% ossicles. 1% spar occurs between the septa of a cup coral and fills an articulated ostracod lined w/ clear dolomite, 1% interxyn bitumen, 78% f xyn dolomite ($50\mu m$ mode), 20% porosity between xtals/gns and minor moulds of articulated ostracods. Rock Name: fossiliferous f xyn dolostone.
BASE OF UNIT 0.00 TOP OF UNIT 3.25 THICKNESS 3.25

UNIT D2. Weathering Character semi-prom. Colour WS buff w/ lt brownish grey irregular patches. FS m brown. Basal Contact trans over 10 cm. Bedding Character one large algal head, ripple marks (cross-lam) below and between heads, ripple crests strike 115°. Bed/Lam Thickness min 2 cm, max 25 cm. Composition dolostone, microxyn, stromatolitic. Sedimentary Structures cross-lam, crests trend 115°. Fossils orthoconic nautiloids occur at D2 base, long axes are randomly oriented along bedding. D2 Sample/Slab Description (taken of underlying cross-lam unit, contains abundant bitumen and carb lams), fresh surface colour; overall lt olive-brown (10YR 6/3), sedimentary structures; low-amplitude stylolites accentuated by dk brown residue, misc; minor fractures, composition; tr ossicles, 50% peloid ghosts, 1% f xyn spar fills veins, 1% bitumen lines fractures, 73% dolomite (f-m xyn) of 2 types, clear and inclusion-rich in a clotted texture, perhaps originally pelsparite, 25% interxyn porosity. Rock Name: f-m xyn dolostone.
BASE OF UNIT 3.25 TOP OF UNIT 3.65 THICKNESS 0.40

UNIT D3. Weathering Character rec covered interval.
BASE OF UNIT 3.65 TOP OF UNIT 3.75 THICKNESS 0.10

UNIT D4. Weathering Character semi-rec to semi-prom. Colour WS m brownish w/ dk brownish lams. FS aa but sl darker. Basal Contact covered. Bedding Character dominantly planar, minor cross-lams and minor wavy lam. Bed Thickness min 2 cm, max 11 cm, lams dk grey, 2 mm thick, m brown lams dominant, 5 mm thick lt lams are laterally continuous for 40 cm. Composition dolostone, 3 cm-sized vugs filled w/ 1 mm-sized spar, subvertical fractures lined w/ dk grey residue, 5% carb, possibly bitumenous, intraformational congolomerate bed

10 cm thick and 30 cm long (a local occurrence), clasts 8 cm by 4 mm. D4 Sample/Slab/Thin Section Description (contains dk bitumenous(?) mat'l on fracture surfaces, near upper contact spar lines fracture), fresh surface colour; overall wk m olive-brown (10YR 5/2), sedimentary structures; cross-lam, sets to 3 cm thick, 1% fracture-filling spar and spar between dolomite xtals, 5% shiny black brittle bitumen fills fractures and space between clasts/xtals, 2% inclusions in dolomite xtals, 1% pyrite, total 68% f xyn dolomite (mode 50μm gn/xtal size), minor isolated clear dolomite within coarser fracture-filling spar, this clear dolomite is in part calcified. Total 25% porosity, some lams much more porous than others due to dissolution of spar, including calcified dolomite. CL; tr bright orange-luminescent zoned spar as minor subvertical veinlets. Otherwise, the sample luminesces a very dull red. Rock Name: cross-lam c calcilutite-sized sl bitumenous f xyn dolostone.
BASE OF UNIT 3.75 TOP OF UNIT 5.05 THICKNESS 1.30

UNIT D5. Weathering Character semi-prom. Colour WS and FS mottled as in D1. Basal Contact trans over 10 cm, planar. Bedding Character mottles are elongate parallel to bedding. Composition calc dolostone, fossiliferous, coaly bitumen fills corallites. Sedimentary Structures mottles. Fossils 1% generally broken colonial coral frags, 1% brachs (modal size 15 mm). D5 Sample/Slab Description (taken 3 cm abu), fresh surface colour; m olive-brown (10YR 5/3), sedimentary structures; stylolites, composition; 15% favositid coral frags (dolomitic), tr spar fills corallites and fractures, 5% shiny black bitumen fills corallites of colonial coral, 60% f xyn dolomite (50μm mode), 20% interxyn sample porosity. Rock Name: sl bitumenous/fossiliferous f xyn dolostone. D5a Sample/Slab/Thin Section Description (rep litho sample), fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; minor low-amplitude stylolites, composition; 10% ostracod valves, 10% undifferentiated shell debris, 1% ossicles, tr turretellid gastropods, 1 conodont in thin section, 1% microspar and 2% f xyn spar in gastropods and articulated ostracods, 1% bitumen between xtals and lining vugs, tr pyrite, 65% f-m xyn dolomite (mode 50μm), m xyn clear dolomite rhombs in some ostracods the space between which is filled w/ spar, some dolomite rhombs have clear rims and inclusion-rich cores, est 2% clay-sized inclusions in dolomite, 25% porosity (20% between xtals and 5% in articulated ostracod moulds), in porous dolomitic areas dolomite rhombs are corroded and in part dissolved. CL; non-luminescent except for bright orange-luminescent clear spar filling a gastropod(?). Limpid dolomite in gastropod is non-luminescent. Rock Name: mottled sl sparry/fossiliferous f-m xyn dolostone.
BASE OF UNIT 5.05 TOP OF UNIT 5.35 THICKNESS 0.30

UNIT D6. Weathering Character semi-prom. Colour WS and FS m brownish grey. Basal Contact trans over 5 cm, very sl wavy. Bedding Character very low-angle tangential cross-lams throughout unit, very thin cosets, possibly wavy lam. Bed/Lam Thickness min 1 cm, max 13 cm, mode 8 cm, laterally continuous. Composition dolostone, also contains fractures w/ carb linings. Note intraclasts and peloids occur in the lower 10 to 12 cm. Intraclast size 2-25 cm, elongate parallel to bedding. Sedimentary Structures low-angle tangential cross-lams throughout. D6 Sample/Slab/Thin Section Description fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; planar lam, low-amplitude stylolites, 1% shell frags, 3% f-c interxyn/fracture-filling spar, 5% interxyn bitumen, tr pyrite, 69% f-m xyn (70μm mode) dolomite, rhombs are com partly dissolved in porous lams, dolomite w/ clear rims and inclusion-rich cores to 300μm in size line f-c xyn clear spar-filled moulds, 25% interxyn porosity, some lams much more porous than others. CL; non-luminescent except for bright orange-luminescent spar in a vug. Spar and dolomite lining the vug is non-luminescent. Rock Name: mottled sl bitumenous f to m xyn dolostone (probably a f gn dolarenite). D6a Sample/Slab/Thin Section Description fresh surface colour; m olive-brown (10YR 5/3), coated gns are different sizes in different lams, composition; 55% single and multiple nucleated coated gns (probably ooids), 1 gastropod, 2 brach shell frags, 5% spar-1 patch of spar 35 by 8 mm thick (c xyn in cores), elongate parallel to bedding, fractures filled w/ spar, 1% bitumen, 25% f xyn inclusion-rich dolomite between coated gns, mode of dolomite rhombs is 25μm, clear dolomite (to c xyn) lines spar-filled vugs, dolospar between coated gns is cloudy white compared w/ lt brown coated gns. Calcification of

dolomite is com along spar-filled fractures. This, combined w/ corroded and partly dissolved dolomite rhombs between coated gns in porous areas suggests dissolution of calcified dolomite as the cause of the high porosity. CL; non-luminescent except for subvertical hairline fractures. FLUOR; zoned spar. Rock Name: sl sparry coated gn f xyn dolostone.
BASE OF UNIT 5.35 TOP OF UNIT 6.35 THICKNESS 1.00

UNIT D7. Weathering Character semi-prom. Colour WS and FS m brownish grey. Basal Contact trans over 5 cm, planar. Bedding Character locally mottled, unbedded. Bed/Lam Thickness <1 to 2 cm, 5% irregular carb lams. Composition dolostone. Fossils 2 brachs (see sample), minor corals. Sample D7, 2 poorly preserved brachs (1%), not well preserved, 1% corals. D7 Sample/Slab Description fresh surface colour; mottled lt olive-brown (10YR 6/3) and vwk dk olive-brown (10YR 4/1), sedimentary structures; mottles and low-amplitude stylolites, composition; 1 turretellid gastropod 8 mm long, 5% poorly preserved brach frags, some f costate, tr spar between dolomite xtals, 79% f-m xyn dolostone (mode 50μm), 15% interxyn porosity. Rock Name: mottled fossil-bearing f-m xyn dolostone.
BASE OF UNIT 6.35 TOP OF UNIT 6.52 THICKNESS 0.17

UNIT D8. Weathering Character semi-prom. Colour WS and FS m brownish grey. Basal Contact sl wavy, trans over 5 cm. Bedding Character irregular in 3 dimensions. Bed/Lam Thickness <1 cm to 2 cm, 5% carb irregular lams, flaggy bedding plane parting throughout unit. Composition calc dolostone, carb, microxyn, fractures lined w/ white dolomite, no bitumen. Intraclasts at base and locally through unit. D8 Sample/Slab/Thin Section Description (highly carb and possibly argil), fresh surface colour; wk xdk olive-brown (10YR 2/2), sedimentary structures; low-angle cross-lam, 20% microspar, 67% f xyn spar, 1 lamina is entirely f xyn spar, another has microspar clasts in f xyn 'matrix', 2% spar fills dolomite-lined 1 cm-sized vugs, however 1 vug along stylolite is lined w/ spar and filled w/ dolomite, 1% bitumen, tr pyrite, 5% vf and f xyn dolomite, clear c xyn dolomite to 0.8 mm lines vugs, calcification of dolomite is com, 5% porosity along stylolites and between xtals/gns. CL; dolomite luminesces dull red, calcite is mainly non-luminescent except for bright orange-luminescent spar filling subvertical fractures (invisible in ordinary light). Rock Name: cross-lam sl dolomitic microsparitic f xyn sparite.
BASE OF UNIT 6.52 TOP OF UNIT 6.77 THICKNESS 0.25

UNIT D9. Weathering Character semi-prom. Colour WS and FS m brownish-grey. Basal Contact abrupt planar. Bedding Character massive. Composition dolostone, chert nodules (3 cm thick, 7 cm long, elongate parallel to bedding) 30 cm abu, nodules dk grey and lensoidal to sbrd, visible porosity in corallites, many of which are filled w/ black, brittle, bitumen (5%). Sedimentary Structures chert nodules. Fossils 20-30% favositid corals, bitumen fills some broken corals. D9 Sample/Slab/Thin Section Description (colonial coral filled w/ bitumen), fresh surface colour; mottled lt olive-brown 10YR 6/3 and 10YR 5/0, sedimentary structures; low-amplitude stylolites, composition; 26% fossils (dolomitic), 20% favositid corals to 8 cm in size, in and out of place, 1% *Catenipora*, 4% ossicles, 1% ostracods(?), tr stromatoporoids, 5% f xyn spar between dolomite rhombs, 8% bitumen between dolomite xtals and filling corallites, bitumen does not fill secondary corroded dolomite porosity. Articulated ostracods (to 3 mm in size) and corallites are filled in part w/ polyxyn quartz (10% spherulitic chalcedony). Polyxyn quartz also replaces corallite walls. Tr pyrite, 36% f xyn dolomite is com, extensively corroded but bitumen does not fill this pore space in remnant sparry dolomitic areas, minor calcification of dolomite, petrographic relations suggest corallites were dolomitized, then in part silicified(?), then calcified, then filled w/ bitumen, then the spar was removed to create secondary porosity and the dolomite was corroded, 25% porosity. CL; non-luminescent w/ the exception of less than 1% bright orange-luminescent calcite overgrowths on spar lining corallites. FLUOR; minor fluorescent dolomite. Rock Name: fossiliferous/sl bitumenous/sl sparry f xyn dolostone. D9a Sample/Slab/Thin Section Description (of large favositid coral and stromatoporoids), fresh surface colour; mottled lt olive-brown (10YR 6/3) and grey (10YR 5/2), sedimentary structures; minor low-amplitude stylolites, composition; 33% fossils, 30% favositid corals, one specimen on its side is at least 18

cm in size (sampled), an in-place 7 cm wide colonial coral w/ 0.5 mm-sized corallites, 1% ossicles, 2% stromatoporoids, tr *Catenipora*, 5% spar (to c xyn) fills corallites, 10% shiny black bitumen and 3% polyxyn quartz fills some corallites, minor fibrous chalcedony replaces corallites, 34% f xyn dolomite (40μm mode) (excludes dolomitized fossils), clear dolomite to 150μm lines spar-filled vugs, colonial coral walls are composed of vf xyn dolomite, in porous areas dolomite has inclusion-rich cores and clear rims, dolospar fills corallites, 3% brown clay-sized inclusions, dolomite is corroded in porous areas. 15% sample porosity (includes 5% ostracod? moulds and empty corallites). CL; non-luminescent except for bright orange-luminescent spar filling corallites. Spar lining corallites and limpid dolomite are non-luminescent. FLUOR; minor zoned fluorescent dolomite. Rock Name: bitumenous/sl sparry/ fossiliferous f xyn dolostone. D9b Sample/Slab/Thin Section Description (rep litho sample), mottled lt olive-brown (10YR 6/3) and grey (10YR 5/0), sedimentary structures; minor low-amplitude stylolites, composition; 19% fossils (dolomitic), consist of 2% ossicles, 2% *Catenipora* frags, 5% tabular stromatoporoids 60 by 4 mm, 10% favositid corals, tr articulated ostracods. 2% polyxyn quartz fills corallites, tr fibrous chalcedony replaces corallite walls, 5% fills corallites and pores of stromatoporoids, 15% shiny black and brittle bitumen, mainly in corallites and in interxyn pores, tr pyrite, tr chert (*Catenipora* in part chert), 48% f xyn (50μm mode) dolomite, clear dolomite lines vugs that are filled w/ 3% spar, dolomite is corroded in porous zones, ossicles have dolomite syntaxial overgrowths, 15% porosity between xtals/gns and in corallites, pores of stromatoporoids and vugs. Rock Name: bitumenous/sl sparry/fossiliferous f xyn dolostone.
BASE OF UNIT 6.77 TOP OF UNIT 7.77 THICKNESS 1.00

The base of unit D10 is taken as the top of member B of the Baillarge Formation.

UNIT D10. Weathering Character rec covered interval.
BASE OF UNIT 7.77 TOP OF UNIT 12.07 THICKNESS 4.30

UNIT D11. Weathering Character semi-prom. Colour WS m brownish grey. FS m brown. Basal Contact covered. Bedding Character f lam, sl wavy. Bed/Lam Thickness min 2 cm, max 10 cm, mode 5 cm, lams dk grey, 0.3 to 1 mm thick, laterally discontinuous over 3 cm, wispy character. Composition dolostone, uniform gn size <0.1 mm. D11 Sample/Slab/Thin Section Description (taken 60 cm abu), fresh surface colour; m olive-brown (10YR 5/3), tr f xyn spar in rd concretion or clast, 1% pyrite in sparry dolomitic rd concretion or clast, 1% interxyn bitumen, 83% f xyn dolomite (30μm mode), 2% brown clay-sized inclusions in partly corroded dolomite, 15% interxyn porosity. CL; non-luminescent. Rock Name: f xyn dolostone.
BASE OF UNIT 12.07 TOP OF UNIT 12.77 THICKNESS 0.70

UNIT D12. Weathering Character semi-prom. Colour WS and FS mottled, buff and m to dk grey (2 cm-sized mottles). Basal Contact abrupt, irregular. Bedding Character mottled. Sedimentary Structures mottle size increases from 2 cm in the basal 30 cm of the unit to 4 cm in an overlying zone. The basal zone has a more random fabric and a lighter buff matrix. Above this the mottle pattern has a fabric parallel to bedding and finally there is a lam unmottled zone. Bed/Lam Thickness min 3 cm, max 20 cm, basal 20 cm may be brecciated. Composition calc dolostone, 1% carb film, laterally discontinuous, approx 2% vugs lined w/ 1 mm white spar. Sedimentary Structures mottles. Fossils ghost preservation of ossicles.
BASE OF UNIT 12.77 TOP OF UNIT 13.77 THICKNESS 1.00

UNIT D13. Weathering Character semi-prom. Colour WS and FS buff, dk grey lams. Basal Contact trans over 20 cm, planar. Bedding Character planar, sl lumpy. Bed/Lam Thickness min 7 cm, max 17 cm (only 2 beds). Composition dolostone, gn/xtal size min 0.2 mm, max 0.3 mm, 10% interxyn porosity. Sedimentary Structures minor stylolites. D13 Sample/Slab Description (taken 20 cm abu), fresh surface colour; lt olive-brown (10YR 6/3) w/ minor wk dk olive-brown (10YR 4/2) lams, sedimentary structures; low-amplitude stylolites, planar lam, composition; 5% ostracod ghosts, 5% microspar, 10% spar between dolomite rhombs and

filling tr fractures, 2% interxyn bitumen, dolomite content is variable from one lamina to another, f to m xyn (ranges from 30 to 75μm), vugs lined w/ m xyn clear dolomite and filled w/ spar, 20% porosity occurs between xtals/gns, also as ostracod moulds to 2 mm in size, 58% f-m xyn dolomite. Rock Name: ostracod-bearing sparry f-m xyn dolostone. Misc well indurated.
BASE OF UNIT 13.77 TOP OF UNIT 14.07 THICKNESS 0.30

UNIT D14. Weathering Character semi-prom. Colour WS and FS m brownish grey overall, dk grey lams. Basal Contact planar, trans over 5 cm. Bedding Character sl wavy, beds thicken and thin laterally over 10 cm. Bed/Lam Thickness min 0.5 mm, max 3 cm, mode 1 to 2 cm, laterally continuous, irregular and wavy in 3 dimensions. Composition dolostone, 0.2 mm uniform gn/xtal size, carb lams comprise 15% of unit, some beds to 2 cm thick are carb, tr small vugs (0.5 cm), 2 in bed 10 cm below upper contact. Sedimentary Structures contorted stratification. D14 Sample/Slab/Thin Section Description (taken from deformation zone 25 cm abu), fresh surface colour; interlam wk dk olive brown (10YR 4/2) and lt olive brown (10YR 6/3), sedimentary structures; contorted lam, composition; 5% spar between dolomite xtals, 2% dk brown interxyn mat'l, 75% f xyn dolomite (40μm mode), 15% interxyn porosity. CL; non-luminescent except tr bright orange-luminescent calcite. Rock name: detrital(?) sl sparry f xyn dolostone.
BASE OF UNIT 14.07 TOP OF UNIT 15.07 THICKNESS 1.00

UNIT D15. (60% lam, 40% mottled). Weathering Character semi-prom, thinly interbedded. Colour WS and FS m brownish, sl mottled in places (m to dk brown mottles). Basal Contact trans over 3 cm, planar. Bedding Character interbedded mottled planar lam, minor sl wavy areas. Bed/Lam Thickness mottled bed (min 0.1 m, max 0.5 m), lam unit thickness min 1 mm, max 20 cm, mode 5 cm, thin dk grey lams are 1 to 2 mm thick and laterally continuous over at least 30 cm. Composition dolostone, some vugs are brach moulds, 15% irregularly-shaped vugs 5 mm in size. Fossils orthoconic nautiloids 0.5 m abu, 2.3 cm long, 0.5 cm wide, concave sutures toward anterior end, also tr brach moulds (3.5 cm across), small 1 cm-sized brachs on bedding plane surface in a massive bed, ossicles occur in interlam unit. Sedimentary Structures interlam mottled and massive units, Misc very well indurated. D15 Sample/Slab/Thin Section Description (of massive bed taken near base), fresh surface colour; overall m olive-brown (10YR 5/3), sedimentary structures; high-amplitude (to 3 mm) stylolites accentuated by dull brown residue to 200μm thick, some fractures terminate at stylolites, in places shiny black bitumen also occurs along stylolites, composition; 5% ossicles, 1% gastropods, tr cup corals and 1 sponge spicule, tr stromatoporoids, tr ostracods, 5% undifferentiated fossil moulds, 1 conodont(?), 5% spar fills vugs and fractures, 2% shiny black bitumen between xtals/gns and com occurs in the center of dolomite-lined, spar-filled vugs (i.e., spar surrounds bitumen), some vugs are lined w/ clear dolomite xtals to 200μm in size and filled w/ c to vc xyn spar, 73% f xyn dolomite (30μm mode), dolomite rhombs partly dissolved, most is lt brown in transmitted light because of inclusions, 20% sample porosity (5% vugs, 15% between dolomite rhombs, along stylolites and fractures). CL; overall a very dull red luminescence. Rock Name: sl sparry/vuggy fossiliferous f xyn dolostone. D15a Sample/Slab/Thin Section Description (of lam unit), interlam wk m olive-brown (10YR 5/2) and wk lt olive-brown (10YR 6/2), sedimentary structures; low-amplitude stylolites accentuated w/ up to 0.2 mm thick dk brown residue, 40% coated gns (probaby ooids) range from 0.15 to 1.5 mm, mode 0.4 mm, now composed of vf to f xyn dolomite, some w/ concentric lamellae and a few w/ multiple nuclei, 6% fossils (dolomitic) consist of 1% ostracods, 5% ossicles. 1% microspar, 2% spar, 2% shiny black bitumen, tr spherulitic chalcedony, 77% total dolomite, limpid m xyn dolomite lines spar-filled vugs, dolomite in porous areas is com corroded, has inclusion-rich cores and clear rims. Calcification of dolomite is com in relict sparry areas, 20% porosity between xtals but mainly between coated gns, some lams more porous than others, tr coated gn mouldic porosity, also minor porosity where selective concentric lams of coated gns have been dissolved. CL; non-luminescent except for tr bright luminescent overgrowths on dolomite filling an ostracod(?). Rock Name: sl fossiliferous/coated gn vf to f xyn dolostone. Sample D15c taken 0.5 m abu contains brachs

and one orthocone.
BASE OF UNIT 15.07 TOP OF UNIT 16.77 THICKNESS 1.70

UNIT D16. Weathering Character semi-prom. Colour WS and FS m brown. Basal Contact abrupt planar over 3 m exposure. Bedding Character planar to large-scale wavy. Bed Thickness min 5 cm, max 10 cm, 5 beds in all, in part faintly lam. Composition very sl calc dolostone, intraclasts (to 8 cm by 0.5 cm), sbrd, elongate parallel to bedding. Sedimentary Structures some imbrication of large intraclasts mainly in lower 5 cm (dip of intraclasts to the south). D16 Sample/Slab/Thin Section Description (taken from lower half of unit), fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; intraclasts, in part lam w/ laterally continuous carb films defining lam, composition; 35% intraclasts (to 35 mm long and elongate parallel to bedding), are composed of variable litho but mainly f xyn dolostone, rarely sparry dolostone. 2% spar, 1% bitumen, 48% f xyn dolomite (corroded in porous areas), 2% clay-sized inclusions in dolomite, tr limpid dolomite lines (and spar fills) fractures, dolomite xtals in some intraclasts have inclusion-rich cores and clear rims, 15% sample porosity is mainly interxyn and is generally higher in the intraclasts than the surrounding 'matrix'. CL; non-luminescent except for tr bright orange-luminescent spar filling vugs. Rock Name: intraclastic f xyn dolostone.
BASE OF UNIT 16.77 TOP OF UNIT 17.02 THICKNESS 0.25

UNIT D17. Weathering Character semi-prom. Colour WS and FS m brown. Basal Contact abrupt, planar. Bedding Character wispy bedding (due to deformation), dk grey parallel lams are laterally continuous over at least 10 m. Bed Thickness min 10 cm, max 30 cm. Composition microxyn dolostone, gn/xtal size <0.1 mm, carb lams comprise 10% of unit. Sedimentary Structures contorted stratification, there is a 5 cm thick intraclastic zone 1.1 m abu. D17 Sample/Slab/Thin Section Description (shows deformation and wispy lams, taken at base of unit), fresh surface colour; overall wk dk olive-brown (10YR 4/2), sedimentary structures; deformation, composition; 1% interxyn spar w/ minor calcified dolomite, 1% bitumen, tr pyrite, 3% brown residue along stylolites and between xtals, 80% f-m xyn dolomite is com corroded, probably due to dissolution of calcified dolomite, 1% est clay-sized inclusions in dolomite, 15% interxyn porosity. CL; overall a very dull red luminescence. Rock Name: intraclastic f-m xyn dolostone.
BASE OF UNIT 17.02 TOP OF UNIT 18.72 THICKNESS 1.70

UNIT D18. Weathering Character semi-prom to semi-rec (excellent exposure at waterfall). Colour WS and FS interbedded m brown and dk brownish grey. Basal Contact trans over 20 cm. Bedding Character planar, laterally very continuous, traceable for approx 70 m. Bed/Lam Thickness min 1 cm, max 15 cm, mode 4 to 5 cm, lams very faint, 70% dk grey, 30% m brown. Composition microxyn dolomitic ls. Sedimentary Structures high-amplitude stylolites. D18 Sample/Slab/Thin Section Description fresh surface colour; wk dk olive-brown (10YR 4/2). sedimentary structures; minor low-amplitude stylolites, 10% intraclasts(?) to 1.5 mm in size, elongate parallel to bedding, 82% microspar (est 2% clay-sized inclusions), 3% patches of f xyn spar, tr clear m xyn spar lines fractures, 2% insoluble interxyn mat'l, including carb flakes, 100μm-sized spar lines fractures, 1% dispersed vf xyn dolomite, some rhombs of which have clear microspar inclusions (calcification?), 2% porosity along fractures and tr along stylolites, tr interxyn porosity. CL; numerous bright orange luminescent spar overgrowths along fracture-filling spar veinlets. Rock Name: intraclastic(?) microsparite. D18a Sample/Slab/Thin Section Description fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; massive, composition; 90% microspar (est 2% clay-sized dk insoluble inclusions), f xyn spar is pseudomorphic after 2% gypsum xtals to 1 mm long, 1% spar lines fractures, 2% dispersed brown insoluble mat'l (10μm mode) between xtals, 2% dispersed vf xyn dolomite replaces microspar, 3% sample porosity (2% along stylolites, 1% between xtals). CL; non-luminescent except for tr bright orange-luminescent 'hairline' subvertical fractures and overgrowths on spar after gypsum xtals. Rock Name: microsparite.
BASE OF UNIT 18.72 TOP OF UNIT 20.72 THICKNESS 2.00

UNIT D19. Weathering Character prom, forms upper ledge of waterfall. Colour WS rusty surface stain. FS m brown. Basal Contact trans over 0.5 m. Bedding Character dominantly planar irregular (stylolites), fractured. Composition dolomitic ls breccia, residue along high-amplitude stylolites and lining joint surfaces, tr dk grey 4-cm-long chert nodules are elongate parallel to bedding. Sedimentary Structures high-amplitude stylolites are accentuated by residue. Misc extensively fractured. A monocline occurs just south of the waterfall w/ 5° apparent dip to north. D19 Sample/Slab/Thin Section Description (taken 0.5 m abu), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; high-amplitude (to 7 mm) stylolites are accentuated by dull black residue to 50 μm thick, in some cases stylolite-bounded clasts have been rotated at right angles to bedding resulting in stylolites at right angles to bedding, 88% microspar w/ est 3% clay-sized inclusions, tr spar along stylolites, tr monoxyn quartz, some w/ bitumen(?) inclusions, 2% brown residue along stylolites, 5% f-c xyn dolomite, especially near or along stylolites, but is also dispersed throughout, very extensive calcification of dolomite, in some areas there are microspar inclusions in the dolomite whereas the spar around the dolomite is much more c xyn, 5% sample porosity between xtals/gns, minor porosity along stylolites, interxyn porosity is highest near stylolites, 'breccia clasts' are difficult to distinguish from 'matrix', because both are composed of microspar, however, clasts are generally lighter in colour because of less brown residue. This concentration of residue may be caused by concentration due to ls dissolution. CL; 2% dull blue-luminescent fluorite after scattered dolomite. Bright orange-luminescent clear calcite (overgrowths along fractures and in part along stylolites). Thick residue along stylolites luminesces a very dull green. Rock Name: f-m calcirudite-sized microsparite 'clast/matrix' crackle (stylo-) breccia.
BASE OF UNIT 20.72 TOP OF UNIT 22.42 THICKNESS 1.70

UNIT D20. Weathering Character rec covered interval. Started on west side of stream, 62 m from waterfall (441 m north of the junction of the inlet and the stream). A 7° dip to the north was measured on the west side of the stream, 62 m north of the waterfall. This thickness therefore should be regarded as minimum since if this 7° dip is constant over the 62 m, the true thickness is 21.6 m. It is not clear in outcrop whether this dip is constant.
BASE OF UNIT 22.42 TOP OF UNIT 36.42 THICKNESS 14.00

UNIT D21. Weathering Character semi-rec. Colour WS and FS interlam vlt buff and m grey. Basal Contact covered. Bedding Character planar lam. Bed/Lam Thickness min 0.5 mm, max 11 cm, mode 7 cm, dk grey carb films 0.5 to 1.0 mm thick, laterally continuous over 5 m wide outcrop, planar, dk lams comprise 5-10%, lt lams 90-95%, dk lams non-uniformly distributed throughout. Composition calc dolostone (perhaps argil), gn/xtal size 0.1 mm. Misc kink bands. D21 Sample/Slab/Thin Section Description (includes bitumen lining joint surfaces, displays flaggy parting), fresh surface colour; wk lt olive brown (10YR 6/2), sedimentary structures; planar lams marked by laterally continuous thin dk grey films, black shiny brittle bitumen coats joint or fracture surfaces, also contorted lam (kink banding), composition; 50% microspar, 10% f to c xyn spar, but mainly f xyn, 30% f xyn dolomite, overall it is a dolomitic ls but the dolomite content in the lams varies from pure dolostone to dolomitic ls, excellent examples of extensive calcification of dolomite in which all but clear dolomite rims are replaced by clear spar, also shows selective calcification of lams wherein the least calcified lams contain the most residue. 10% sample porosity. CL; 1% blue luminescent fluorite after dolomite in xtal clusters, otherwise the sample luminesces a uniform very dull red. Rock Name: sparry dolomitic microsparite.
BASE OF UNIT 36.42 TOP OF UNIT 37.82 THICKNESS 1.40

UNIT D22. Weathering Character semi-rec to semi-prom. Colour WS and FS m brownish grey. Basal Contact abrupt, planar. Bedding Character one bed. Composition microxyn calc dolostone, bitumen on fracture and joint surfaces and between breccia clasts.
BASE OF UNIT 37.82 TOP OF UNIT 38.01 THICKNESS 0.19

UNIT D23. Weathering Character semi-rec. Colour WS and FS white to m grey. Basal

Contact abrupt, planar. Bedding Character planar lam/bedding, locally crackle breccia. Bed/Lam Thickness min 0.5 mm, max 11 cm, mode 7 cm, lams carb, dk grey, 0.5 to 1 mm thick, planar, laterally continuous over 5 m wide exposure, 5-10% dk carb lams, 90-95% lt lams non-uniformly distributed in vertical sequence. Composition dolomitic ls containing 1 cm-sized vugs, bitumenous mat'l lines joint surfaces and occurs between clasts in the crackle breccia, black bitumen films on joint surfaces to 3 X 3 cm. Misc similar to unit D21, noticeably deformed below breccia.
BASE OF UNIT 38.01 TOP OF UNIT 38.11 THICKNESS 0.10

UNIT D24. Weathering Character prom. Colour WS buff, varicoloured in detail, generally m brownish, dk grey. FS sl more greyish. Basal Contact deformed irregular, wavy to convex-up, some minor 1 cm-sized vugs. Bedding Character inversely-graded breccia. Composition breccia, clasts min 1 cm, max 1.25 m, poorly sorted, mode 10-15 cm, randomly oriented, no preferred fabric, ang to sbang, large clasts ang to sbrd and are inversely graded wrt size, clasts dolostone, some lam, some contain intraclasts. Black bitumen occurs between breccia clasts, especially in the basal 1.5 m of the unit. Sedimentary Structures high-amplitude stylolites, especially at base of unit, vugs occur throughout breccia. D24 Sample/Slab/Thin Section Description (taken 1 m abu, dk grey clasts), fresh surface colour; breccia clasts (wk vdk olive-brown, 10YR 3/2) in a lt olive-brown (10YR 6/3) 'matrix', sedimentary structures; planar to contorted lams in clasts, high-amplitude stylolites are accentuated by dull black residue, 2% bitumen, 5% dk brown residue in clasts, 10% dolomite, mode 50μm, mainly in 'matrix', com occurs in xtal aggregates, calcitization of dolomite is com, 15% sample porosity, interxyn porosity is as high as 25% in dolostone clasts, 68% breccia clasts (min 2 mm, max 35 mm, mode 6 mm), consist of vf xyn dolomite, most consist of microspar w/ low porosity, 'matrix' between clasts is mainly f-c xyn spar. CL; tr bright orange-luminescent calcite overgrowths on non-luminescent spar-filling vugs, tr blue luminescent fluorite after dolomite, otherwise the sample luminesces a 'cloudy' dull red. Rock Name: m calcirudite-sized solution breccia: microsparite and minor vf xyn dolostone 'clast' spar 'matrix' breccia. Misc this unit varies considerably in thickness laterally (a max thickness is 7 m).
BASE OF UNIT 38.11 TOP OF UNIT 45.11 THICKNESS 7.00

UNIT D25. Weathering character rec covered interval, travelled upstream on east side to find unbrecciated section. Breccia still occurs 486 m from junction of inlet and stream, 69 m asl. On east side of stream higher on the cliffs above the covered interval breccia reappears. However, this breccia forms cylindrical to inverted-cone-shaped pipes (widest at base) adjacent to the stream. The rocks behind these pipes are horizontally stratified, 535 m from the Port Bowen/stream junction. 76 m asl, the breccia pipe crosses the stream in outcrop. At 82 m asl and 571 m north of the stream/ inlet junction there are still breccia pipes, 589 m north of stream/inlet junction and 85 m asl it is still breccia. 614 m north of stream/inlet junction and 88 m asl it is still breccia. At 92 m asl and 633 m north of stream/inlet junction the breccia grades laterally into horizontal strata that are flexed downward into breccia. The grey and buff unit continues upstream. However, there is a continuously unbrecciated section here. This unit will be described starting 92 m asl, no unit name is given to the breccia pipe.
BASE OF UNIT 45.11 TOP OF UNIT 64.42 THICKNESS 19.31

UNIT D26. Grey and buff interbedded unit starts here, each unit is described separately. Weathering Character prom. Colour WS and FS buff. Basal Contact indet. Bedding Character planar, locally brecciated. Bed Thickness min 25 cm, max 30 cm, faint planar lams. Composition dolostone, calc where locally brecciated, gn size 0.1 to 0.2 mm. Chert occurs in middle of unit as brecciated nodules in a zone 10 cm thick. There are some fractures filled w/ mat'l from overlying unit. Vugs occur in fracture fill and are lined w/ 2 mm-sized spar. In places the upper contact is brecciated. Sedimentary Structures chert nodules, vugs. D26 Sample/Slab/Thin Section Description (taken from middle of unit 10 m north of massive breccia), fresh surface colour; breccia, chert clasts are vwk lt olive-brown (10YR 6/1) in a lt olive-brown (10YR 6/3) dolostone 'matrix', sedimentary structures; chert clast breccia, 5% microspar, 15% f and m xyn spar, misc; chert breccia clasts are very poorly sorted and 8 cm

in size, rd large clasts, ang small clasts, chert clasts contain relict dolomite rhomb ghosts and most contain relict dolomite, some rhomb ghosts in chert contain ghosts of dissolved dolomite cores showing that silicification occurred after calcification of dolomite. This suggests that the sequence of events is calcification of dolomite followed by silicification which in turn is followed by brecciation. 15% f-m xyn dolomite much of which has been silicified. 20% sample porosity occurs mainly between clasts but also within clasts, 60% breccia clasts are larger than 2 mm, clast size max 80 mm, mode 5 mm. CL; 1% dull blue-luminescent fluorite after dolomite between breccia clasts, 10% bright orange-luminescent calcite overgrowths on spar between breccia clasts. Rock Name: sparry dolomitic chert clast breccia.
BASE OF UNIT 64.42 TOP OF UNIT 66.02 THICKNESS 1.60

UNIT D27. Weathering Character prom. Colour WS and FS m brownish grey. Basal Contact abrupt, planar, locally brecciated. Bedding Character stromatolites comprise 30% of unit but mainly planar bedded, intraclasts between stromatolites. Bed/Lam Thickness min 8 cm, max 0.5 m. Composition calc dolostone, locally brecciated, 30% ang to rd intraclasts, 1 cm max size, elongate parallel to bedding. Sedimentary Structures stromatolites, intraformational conglomerate. D27 Sample/Slab/Thin Section Description (of largest stromatolite in middle of unit), fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; convex-up structures, mm thick lam, composition; 10% intraclasts to 2.5 mm in size, 60% peloids range from 25 to 150μm in size (mode 50μm), composed of microspar, 17% microspar, 5% f-m xyn spar, 3% dispersed vf xyn dolomite, 5% porosity along fractures, stylolites and between xtals/gns. Rock Name: sl dolomitic/sl sparry intraclastic and stromatolitic pelmicrosparite.
BASE OF UNIT 66.02 TOP OF UNIT 67.52 THICKNESS 1.50

UNIT D28. Weathering Character prom. Colour WS buff, sl greenish in upper part. FS buff w/ brown patches. Basal Contact abrupt, wavy (wavelength 2 m, amplitude 10 cm). Bedding Character breccia except lower 30 cm which is planar bedded w/ faint lams. Composition breccia, 70% clasts, 30% matrix, dolostone, very sl calc brown carb film comprises 2% of rock, clast size uniform throughout unit, min 2 mm, max 4 cm, mode 2 cm, poorly sorted, sbrd to sbang randomly oriented clasts, tr dk grey 3 cm-sized chert nodules. 1.5 m abu there are clasts to 30 cm in size, elongate parallel to bedding, sbang to rd. D28 Sample/Slab/Thin Section Description (taken 0.6 m abu), fresh surface colour; breccia but overall vwk xlt yellowish-orange (10YR 8/1), misc; breccia clasts com fractured, 60% breccia clasts greater than 2 mm in size, range to 30 mm, 7 mm mode, clasts composed of vf and f xyn dolomite, 'matrix' consists of 25% microspar/f xyn spar, 15% sample porosity (10% between xtals in dolostone clasts and 5% between clasts), most of the porosity is probably due to dissolution of calcified dolomite. CL; 2% blue-luminescent fluorite after dolomite is concentrated in the 'matrix' between clasts. 20% spar between clasts has bright orange-luminescent overgrowths. Otherwise, the dolomite of the sample has a very dull pink luminescence. Rock Name: m calcirudite-sized breccia: vf and f xyn dolostone 'clast' microsparite/f xyn sparite 'matrix' rubble breccia.
BASE OF UNIT 67.52 TOP OF UNIT 70.02 THICKNESS 2.50

UNIT D29. About 96 m asl and 673 m north of steam/inlet junction. Weathering Character semi-prom. Colour WS and FS lt greenish grey. Basal Contact wavy, wavelength 1 m, amplitude 8 cm. Bedding Character one bed, locally brecciated. Composition microxyn dolostone, upper half of unit is breccia, clasts weather white, 10 cm long by 2 cm wide, 673 m north of stream/inlet junction the unit becomes completely brecciated along w/ overlying units, white clasts are calc dolostone, good porosity and permeability, clasts subequant, ang to sbrd, randomly oriented, matrix 50%, clasts 50%. D29 Sample/Slab/Thin Section Description fresh surface colour; breccia-large patches of wk vlt yellowish orange (10YR 7/2) and m olive-brown (10YR 5/3), sedimentary structures; contorted structures grade to crackle breccia w/ minor rubble breccia, 'clasts' and 'matrix' are difficult to distinguish. Note that there is extensively calcified dolomite as microspar replacing dolomite along boundaries. Much of the calcified dolomite has been leached and this has also contributed to the brecciation. Low-amplitude stylolites, overall 20% porosity, most is between xtals in the dolostone clasts,

breccia clasts are composed of porous and permeable vf and f xyn dolomite and variably dolomitic sparry microsparite, 'clasts' are up to at least 60 mm in size, modal size 8 mm, 'matrix' consists of variously dolomitic sparry microspar, 1% vf xyn pyrite. Rock Name: m calcirudite-sized breccia: vf and f xyn dolostone and dolomitic/sparry microsparite 'clast' variously dolomitic microsparite 'matrix' crackle breccia.
BASE OF UNIT 70.02 TOP OF UNIT 70.52 THICKNESS 0.50

UNIT D30. Weathering Character prom. Colour WS m grey overall. FS m brownish grey. Basal Contact abrupt, wavy, wavelength 1 m, amplitude 10 cm, locally brecciated and irregular. Bedding Character planar, sl irregular, tr carb lams, locally brecciated. Bed/Lam Thickness min 2 cm, max 35 cm, mode 8 cm. Composition microxyn calc dolostone (locally brecciated), 40% intraclasts (1 cm in size and rd), tr carb lams. Sedimentary Structures black chert, irregularly-shaped, occurs in brecciated zone. Fossils ostracods (intraclastic unit w/ ostracods, taken from middle of unit, is brecciated in places and has a bitumenous odour). D30 Sample/Slab Description fresh surface colour; m olive-brown (10YR 5/3), sedimentary structures; planar lam marked by planar low-amplitude stylolites w/ black residue, composition; 20% articulated ostracods to 5 mm in size, mainly filled w/ microspar but some w/ spar, 63% microspar, 5% spar fills vugs and fractures and some articulated ostracods, tr pyrite, 2% black residue along stylolites, some lams may consist of detrital m-c calcilutite, 5% dispersed f xyn dolomite, 5% porosity along stylolites and fractures and between xtals/gns, interxyn porosity is especially high near fractures and stylolites. Rock name: sl dolomitic/sl sparry ostracodal biomicrosparite.
BASE OF UNIT 70.52 TOP OF UNIT 73.92 THICKNESS 3.40

UNIT D31. (700 m north of stream/inlet junction). Weathering Character prom but poor exposure. Colour WS lt to m grey, sl greenish. FS m brownish grey. Basal Contact abrupt, planar. Bedding Character sl wavy, locally rubble breccia (20 cm clast mode). Bed/Lam Thickness min 1 cm, max 11 cm, mode 6 cm, faint lams. Composition microxyn dolostone, some discontinuous carb film on bedding planes, locally brecciated, faintly lam, taken near base of unit. Sedimentary Structures high-amplitude stylolites. D31 Sample/Slab/Thin Section Description fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; low and high (to 2 mm) amplitude stylolites, very vague planar lam, composition; 1% ostracods to 0.7 mm in size, filled w/ f-m xyn spar, 66% microspar, 1% f-m xyn spar, 30% f xyn dolomite, contains numerous microspar inclusions and is com corroded, dolomite is concentrated along stylolites. It is not clear whether micropar inclusions in dolomite are due to calcification of dolomite or incomplete dolomitization, 2% porosity along stylolites. CL; non-luminescent. Rock Name: dolomitic (f xyn) microsparite.
BASE OF UNIT 73.92 TOP OF UNIT 74.32 THICKNESS 0.40

UNIT D32. Back to 673 m north of stream/inlet junction, measuring up cliff, inaccessible unit.
Weathering Character semi-prom. Colour WS and FS m brownish grey. Basal Contact trans over 5 cm, planar. Bedding Character planar, sl irregular. Bed Thickness min 2 cm, max 35 cm, mode 8 cm. Composition microxyn calc dolostone, otherwise similar to unit D30.
BASE OF UNIT 74.32 TOP OF UNIT 77.82 THICKNESS 3.50

UNIT D33. Weathering Character prom. Colour WS and FS m brown, upper 30 cm of unit weathers buff. Basal Contact abrupt, planar. Bedding Character planar irregular, locally digitate stromatolites. Bed/Lam Thickness min 1 cm, max 30 cm, mode 8 cm Composition microxyn calc dolostone, approx 40% 5 mm to 2 cm-sized sbrd intraclasts on bedding plane surfaces. Sedimentary Structures poorly developed stylolites, hummocky structures in upper metre of unit have a 1 m wavelength but this is less elsewhere. Fossils 5 mm long echinoderm stem. Misc unit is extensively fractured, irregular joint surfaces. Bed parting thickness is 1 cm in upper 30 cm of unit. D33 Sample/Slab/Thin Section Description fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; low-amplitude stylolites, 60% intraclasts to 5 mm in size, mode 0.6 mm, larger intraclasts are rd, composed of pelmicrosparite, 1%

articulated ostracods to 0.8 mm in size, filled w/ m-c xyn spar, 17% microspar, 5% spar, 2% dk brown insoluble mat'l along stylolites, 10% f xyn dolomite, com calcified, 5% porosity along stylolites and fractures. Rock Name: sl sparry/dolomitic intramicrosparite. D33a Sample/Slab Description (of small stromatolitic structure 0.6 m abu), fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; digitate stromatolites, 79% microspar, 1% bitumen, tr pyrite, 15% f xyn dolomite, 5% interxyn porosity. CL; 1% blue-luminescent fluorite after dolomite, 15% very dull orange-luminescent uniformly distributed dolomite. Microspar is non-luminescent. Rock Name: dolomitic microsparite.
BASE OF UNIT 77.82 TOP OF UNIT 79.42 THICKNESS 1.60

UNIT D34. Weathering Character semi-prom. Colour WS buff. FS m brownish grey. Basal Contact abrupt, planar. Bedding Character massive. Composition microxyn sl calc dolostone. Sedimentary Structures sl slickensided. D34 Sample/Slab/Thin Section Description (taken at base of unit, sl slickensided), fresh surface colour; wk vlt yellowish-orange (10YR 7/2), sedimentary structures; moderately bioturbated, composition; 62% microspar, 30% f to m xyn sparry patches in microspar, spar lines fractures, 3% vf to f xyn dolomite (com calcified), 5% porosity along fractures, stylolites, and between xtals/gns. CL; 30% dull orange-luminescent calcite is distributed uniformly through the non-luminescent sample. In addition, there are bright orange-luminescent overgrowths in sparry patches along subvertical fractures (5%). Rock Name: sl dolomitic/sparry microsparite.
BASE OF UNIT 79.42 TOP OF UNIT 79.61 THICKNESS 0.19

UNIT D35. Weathering Character semi-prom. Colour WS buff. FS m brownish grey. Basal Contact abrupt, planar. Bedding Character variable, upper 0.5 m planar, middle unit (0.3 m) massive, basal 0.4 m planar bedded. Bed/Lam Thickness basal and upper parts 1 mm to 1 cm planar lams, flaggy parting, middle of unit massive. Composition microxyn dolostone, lower and upper parts possibly argil. Misc very poor exposure, upper and lower zones have 1 mm thick planar lams. D35 Sample/Slab Description (lower and upper units are possibly argil w/ flaggy parting, sample taken from massive bed), fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; low-amplitude stylolites, composition; 79% microspar, 1% f xyn spar, 15% evenly dispersed vf-f xyn dolomite is concentrated along stylolites and is com calcified, 5% porosity along stylolites and between xtals/gns. CL; 5% bright orange-luminescent composite spar after uniformly scattered gypsum xtals, 1% uniformly distributed moderately blue-luminescent fluorite after dolomite. Rock Name: dolomitic microsparite.
BASE OF UNIT 79.61 TOP OF UNIT 80.71 THICKNESS 1.10

UNIT D36. Weathering Character prom. Colour WS and FS mottled, m brownish grey and buff. Basal Contact abrupt, planar. Bedding Character mottled. Composition very sl calc dolostone. Sedimentary Structures mottle concentration increases upward in unit, 5% mottles at base, 50% near top, mottles are elongate subparallel to unit contacts. D36 Sample/Slab/Thin Section Description (taken 90 cm abu), fresh surface colour; mottled, overall lt olive-brown (10YR 6/3), sedimentary structures; subvertical slickensides, tr laterally discontinuous wispy stylolites, irregularly-shaped isolated patches of microspar w/ sharp boundaries 'floating' in variously dolomitic 'matrix', one 0.7 mm long ostracod, 55% microspar (of which 5% is pseudomorphic after gypsum? xtals), tr f to m xyn spar, tr pyrite, 40% f xyn dolomite xtals that in sparry areas have clear rims and inclusion-rich cores, dolomite rhombs are com corroded and contain microspar inclusions-probably calcification of dolomite, 5% interxyn porosity. CL; dolomite luminesces a dull orange-red. Most of the calcite is non-luminescent except for bright orange-luminescent calcite overgrowths on spar after gypsum xtals. Rock Name: mottled dolomitic (f xyn) microsparite.
BASE OF UNIT 80.71 TOP OF UNIT 81.91 THICKNESS 1.20

UNIT D37. Weathering Character prom. Colour WS and FS m brownish grey and buff, mottled. Basal Contact abrupt, planar. Bedding Character planar. Bed/Lam Thickness min 3 cm, max 30 cm, mode 10 cm, 1 mm thick faint lams. Composition sl calc dolostone,

intraclastic zone 1.24 to 1.5 m abu. Sedimentary Structures stromatolites occur in upper 0.5 m of unit 37, wavelength 0.25 m, mottled. D37 Sample/Slab Description (from intraclastic zone), fresh surface colour; mottled wk dk olive-brown (10YR 4/2) and vlt yellowish orange (10YR 7/3), sedimentary structures; intraclasts, low-amplitude stylolites, dolomitic mottles, composition; 30% rd elongate intraclasts 2 cm in size, composed of microspar, 30% microspar between intraclasts, tr spar, 30% f xyn dolomite is concentrated in irregularly-shaped mottles, 10% interxyn porosity. Rock Name: mottled dolomitic (f xyn) intramicrosparite.
BASE OF UNIT 81.91 TOP OF UNIT 84.51 THICKNESS 2.60

UNIT D38. Weathering Character prom ledge-former. Colour WS generally buff w/ yellowish brown patches, 10% orange weathering surfaces. FS m brownish grey to buff. Basal Contact trans over 5 cm. Bedding Character breccia w/ uniform clast size. Composition breccia, clasts mostly dolostone, ranging to 35 cm in size, large clasts sl more rd than small clasts. D38 Sample/Slab/Thin Section Description (is unoriented, taken from top of breccia, clasts subparallel to bedding, many subequant), fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; irregularly-shaped chert nodule at least 4 cm in size, contains gypsum xtal moulds, composition; 10% microspar, 50% spar, 10% chert nodules, 20% f-m xyn dispersed dolomite rhombs, excellent examples of calcified dolomite, 10% sample porosity (5% gypsum xtal moulds w/ swallowtails to 1.5 mm long by 0.1 mm wide, 5% interxyn porosity). CL; non-luminescent except for 20% bright orange-luminescent composite spar after gypsum xtals. The luminescent overgrowths occur on non-luminescent cores, Rock Name: cherty dolomitic (f-m xyn) microsparite breccia.
BASE OF UNIT 84.51 TOP OF UNIT 86.01 THICKNESS 1.50

END OF SECTION D IN LOWER MEMBER OF CAPE CRAUFORD FORMATION, CONTINUED AS SECTION DX.

E. FIELD AND SAMPLE DESCRIPTIONS FOR SECTION DX, PORT BOWEN, MEASURED IN 1984.

Locality: North Shore of Port Bowen, Section DX continues unfinished section D measured in 1982.
Latitude: 73°13'54"N.
Longitude: 88°56'W.

UNIT DX1. Undescribed interval, sealevel is taken as 0 in this section.
BASE OF UNIT 0.00 TOP OF UNIT 94.50 THICKNESS 94.50

UNIT DX2. Weathering Character prom. Colour WS & FS m brown/buff clasts, 20% dk grey clasts. Basal Contact covered. Bedding Character locally brecciated in 20-30 m wide, 30 m high breccia pipes. Composition clast-supported breccia, buff dolostone and dk brown ls clasts in a f matrix, tr dk grey chert. Some of the clasts are themselves composed of f clast breccia of buff dolostone w/ a tr of chert, one of the breccia clasts is 80 cm long and consists of small clasts (min 1 cm, max 3 cm, mode 2 cm). Sedimentary Structures contorted bedding in dolostone clasts, digitate 'stromatolites' in buff clast about 2 m below base of unit. DX2 Sample/Slab/Thin Section Description (taken 2 m abu showing buff clasts), fresh surface colour; breccia, wk xlt yellowish-orange (10YR 8/2) 'clasts' in a wk vlt yellowish-orange (10YR 7/2) 'matrix'. sedimentary structures; breccia, vugs, composition; 1% interxyn bitumen, large ang dolostone clasts to 10.5 cm in size, some clasts appear folded, dolostone clasts are fractured and extremely porous, some are entirely dissolved, 20% porosity (5% dolostone clast moulds, 15% interxyn porosity in dolostone clasts), large ang dolostone clast to 10.5 cm, 5% polyxyn quartz and chert clasts, part of dolostone clast is fractured, 50% clasts (min 2 mm, max 10.5 cm, mode NA), 'matrix' consists of dolomitic f xyn spar. The outer 1 cm of the clast consists of dolomitic f xyn spar, much of which is calcified dolomite in the

form of spar replacing dolomite rhomb edges and cores. The center of the clast has been leached of spar and consists of porous f-m xyn dolomite. However, about 3% spar remains, including spar-replaced dolomite cores (excellent examples w/ large xtals). CL; dull red-luminescent except for 1% dull blue-luminescent fluorite after dolomite. Rock Name: vuggy f-m xyn dolostone 'clast'-dolomitic f xyn spar 'matrix' rubble breccia.
BASE OF UNIT 94.50 TOP OF UNIT 99.50 THICKNESS 5.00

UNIT DX3. Weathering Character prom. Composition mottled dk brown ls, very poorly bedded. Fossils gastropods, orthocones, crinoid stems. DX3a Description (taken 1.5 m abu), low-spired conispiral gastropods to 20 mm high (25 mm diameter)
BASE OF UNIT 99.50 TOP OF UNIT 103.10 THICKNESS 3.60

UNIT DX4. Weathering Character prom. Colour WS & FS buff. Composition locally brecciated calc dolostone, lam w/ carb films. Sedimentary Structures lam, wavy bedding, large convex-up structures w/ carb lams from 8.9 to 12.9 m abu, wavelength is 50 cm, amplitude is 30 cm. DX4 Sample/Slab/Thin Section Description (taken 14.4 m abu), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; convex-up structures (15 mm wide, 10 mm amplitude), lams 1 mm thick, misc; minor fracture porosity, composition; 70% f xyn (30μm mode) dolomite, 30% porosity along fractures and between xtals, vugs to 200μm in size. CL; tr moderately blue-luminescent fluorite after dolomite, 1% bright orange-luminescent overgrowths on dolomite in vugs. Rock Name: vuggy f xyn dolostone.
BASE OF UNIT 103.10 TOP OF UNIT 119.50 THICKNESS 16.40

UNIT DX5. Weathering Character prom. Colour m brown to buff. Composition dolostone, <1% black chert, vuggy buff dolostone, local breccia between 5.5 & 6.5 m abu. Sedimentary Structures unbedded to vaguely bedded, some convex-up structures (7 cm wavelength, 1 cm amplitude 4.5 m abu). DX5 Sample/Slab/Thin Section Description (small litho sample taken 1.0 m abu), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; vugs, composition; 3% f and m xyn spar to 200 μm in size, 67% f-m xyn dolomite xtals, 30% porosity (10% vugs to 3 mm in size and 20% between xtals), dolomite rhombs are extensively leached. Rock Name: vuggy sl sparry/f xyn dolostone. DX5a Sample/Slab Description (small litho sample 5.0 m abu), fresh surface colour; interlam wk vlt yellowish orange (10YR 7/2) and wk lt olive-brown (10YR 6/2), sedimentary structures; irregular mottles 4 mm in size, lams 1 mm thick, composition; 2% spar between dolomite, 88% f xyn dolomite, 10% interxyn porosity. CL; 5% bright orange-luminescent overgrowths on limpid dolomite in vugs. Rock Name: sl sparry f xyn dolostone.
BASE OF UNIT 119.50 TOP OF UNIT 126.00 THICKNESS 6.50

UNIT DX6. Weathering Character prom. Composition mottled ls at 0.0 and 3.1 m abu, lam ls 4.0 m abu. Sedimentary Structures high-amplitude stylolites 4.0 m abu in lam ls w/ convex-up structures that increase in size upward in the unit. Between 3.0 & 3.3 m abu-small scale wavy structures (20 cm wavelength, 5 cm amplitude), structures increase in size upwards. Branching digitate stromatolites 3.0 m abu, individual digits are 3 cm wide and branch every 10 cm, lams in digits are convex-up. Fossils turretellid gastropod 2.0 m abu. Misc colour changes are poorly documented and difficult to recognize but units are generally interlayered buff & dk brown. DX6 Sample/Slab/Thin Section Description fresh surface colour; overall lt olive-brown (10YR 6/3), sedimentary structures; dolomitic mottles, low-amplitude stylolites, composition; 65% microspar, 10% micrite, tr bitumen, 20% f-m xyn dolomite, 5% interxyn porosity. CL; 1% bright orange-luminescent calcite overgrowths on composite spar after gypsum. Rock Name: mottled dolomitic/micritic microsparite. DX6a Sample/Slab Description (of intraclasts 1 m abu), fresh surface colour; lt olive-brown (10YR 6/3), composition; 65% clotted microspar, 10% spar, 15% m xyn dolomite (100μm mode), 10% porosity (5% vugs to 0.5 mm and 5% between xtals). Rock Name: dolomitic/sparry microsparite. DX6b Sample (of mottled ls 3.1 m abu) DX6c Sample/Slab/Thin Section Description fresh surface colour; wk m olive-brown (10YR 5/2) and wk vlt yellowish orange (10YR 7/2), sedimentary structures; low-amplitude stylolites, digitate stromatolites, microspar and f xyn spar in a clotted texture

in stromatolites, composition; 25% intraclasts (to 25 mm in size), 1 mm mode, composed of microspar, tr brachs, 1 cm-sized turretellid gastropod frag, shell is composed of m xyn dolomite rhombs, gastropod is filled w/ microspar, 45% microspar in total, 5% spar, 20% f-m xyn dolomite mainly in areas between digits, calcified dolomite com, mainly as microspar replacing dolomite rhomb edges, good examples of calcified dolomite are rare. 5% interxyn porosity. Rock Name: microsparitic digitate stromatolites w/ intraclastic f-m xyn dolomite between digits. DX6d Sample/Slab/Thin Section Description (taken about 4 m abu), fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; convex-up structures to 40 mm wide by 20 mm high, high-amplitude stylolites, composition; 30% f xyn spar, 35% peloids composed of microspar, 20% f-m xyn dolomite is concentrated along stylolites, 5% interxyn porosity. Rock Name: dolomitic (f-m xyn) pelmicrosparite. DX6e Sample/Slab/Thin Section Description (rep litho sample taken 3.2 m abu), fresh surface colour; vlt yellowish orange (10YR 7/3), sedimentary structures; extremely ang lateral wedge-out of lams, immediately overlain by breccia, therefore the wedge-out of lam may be related to carbonate solution brecciation, minor coated gns. composition; 60% microspar, 25% f-m xyn dolomite in mm-sized patches, calcified dolomite is com, 5% interxyn porosity, 10% gypsum xtal moulds to 7 mm long. CL; dull red-luminescent dolomite, calcite is non-luminescent. Rock Name: dolomitic pelsparite, locally brecciated.
BASE OF UNIT 126.00 TOP OF UNIT 137.00 THICKNESS 11.00

UNIT DX7. Weathering Character prom. Colour WS & FS buff. Composition dolostone, moderate vuggy porosity between lams of structures. Sedimentary Structures convex-up structures. (30 cm wide and 15 cm high).
BASE OF UNIT 137.00 TOP OF UNIT 137.50 THICKNESS 0.50

UNIT DX8. Weathering Character prom. Colour WS & FS buff. Basal Contact convex-up structures to 30 cm wide and 15 cm high. Composition dolostone breccia w/ 10% dolostone and chert clasts (modal clast size about 5 cm).
BASE OF UNIT 137.50 TOP OF UNIT 139.00 THICKNESS 1.50

UNIT DX9. Weathering Character prom thick grey ls at base of upper member of the Cape Crauford Fm. Colour WS & FS m grey w/ buff mottles. Basal Contact irregular, brecciated and locally collapsed. Bedding Character mottled. Composition mottled ls, locally brecciated at base. Sedimentary Structures slickensides. Fossils gastropods. Samples DX9 (conodonts).
BASE OF UNIT 139.00 TOP OF UNIT 153.00 THICKNESS 14.00

UNIT DX10. Weathering Character rec covered interval.
BASE OF UNIT 153.00 TOP OF UNIT 159.00 THICKNESS 6.00

UNIT DX11. Weathering Character prom. Basal Contact covered. Colour WS & FS m brownish grey ls, buff dolostone. Composition c xyn ls interbedded w/ calc dolostone contains coated gns, tr chert, locally brecciated. DX11 Sample/Slab/Thin Section Description (taken 0.5 m abu, of coated clasts), fresh surface colour; wk xlt yellowish orange (10YR 8/2), sedimentary structures; coated elongate clasts to 15 mm long, composition; coatings are superficial, thin and resemble stylolitic residue, gns are composed of f xyn dolomite (w/ com calcified dolomite), m xyn limpid dolomite (100μm mode) lines intergranular pores, the remaining intergranular porosity is filled w/ m xyn spar, spar also fills numerous subvertical fractures, total spar content is 10%, gns are com deformed, 65% vf-f xyn dolomite w/ 3% inclusions, 25% interxyn porosity. CL; 5% bright orange-luminescent overgrowths on clear spar that fills vugs. Dolomite luminesces dull red. FLUOR; com zoned vug-filling dolomite. Rock Name: coated gn/clast (m calcirudite-sized) sparry vf-f xyn dolostone.
BASE OF UNIT 159.00 TOP OF UNIT 164.00 THICKNESS 5.00

The base of DX12 is taken as the contact between the upper and lower members of the Cape Crauford Formation.

UNIT DX12. Weathering Character prom. Colour WS & FS brown. Sedimentary Structures faint planar bedding (approx 5 cm thick), small-scale irregular, massive in places, locally brecciated. Composition ls.
BASE OF UNIT 164.00 TOP OF UNIT 166.50 THICKNESS 2.50

UNIT DX13. Weathering Character rec covered interval.
BASE OF UNIT 166.50 TOP OF UNIT 171.00 THICKNESS 4.50

UNIT DX14. Weathering Character prom. Colour WS & FS mottled buff. Composition mottled dolostone, <1% chert nodules, <1% pyrite, brecciated in basal 0.5 m. Misc DX14 grades into scree which continues approx 30 m higher than top of unit. Samples DX14 (conodont sample).
BASE OF UNIT 171.00 TOP OF UNIT 217.00 THICKNESS 46.00
A misc conodont sample (SP1) was taken about 150 m asl 1.3 km east of section D at lat. 73°13'28"N, 89°17'50"W) from the uppermost few metres of the lower member of the Cape Crauford Formation.
Another misc conodont sample (Th1) was taken from the basal part of the upper member of the Cape Crauford Formation on the south side of Port Bowen. This unit also contains solitary and colonial corals, stromatoporoids and gastropods.

F. FIELD AND SAMPLE DESCRIPTIONS FOR SECTION TL, MEASURED IN 1984

Locality: Northeast end of Port Bowen.
Latitude: 73°13'12"N.
Longitude: 88°48'00"W.

Section TL was measured through the uppermost part of the lower member of the Cape Crauford Formation up the northernmost side of a 10 m wide collapse structure (paleodoline). *The base of unit TL1 is taken as equivalent to 107 m in section DX.*

UNIT TL1. Weathering Character prom. Basal Contact covered. Bedding Character breccia. Composition breccia, 40% dk grey ls clasts, 40% buff dolostone clasts, 20% f clasts (<1 cm) consist of mat'l less than 1 cm in size in a calc 'matrix', low porosity. Clasts contain ossicles (clast size min 1 cm, max 0.7 m, mode 5 cm), about 1% chert clasts, are randomly oriented ang to sbang, some ls clasts are extremely stylolitic. Sedimentary Structures high-amplitude stylolites.
BASE OF UNIT 0.00 TOP OF UNIT 3.00 THICKNESS 3.00

UNIT TL2. Weathering Character rec covered interval.
BASE OF UNIT 3.00 TOP OF UNIT 9.50 THICKNESS 6.50

UNIT TL3. Weathering Character prom. Basal Contact covered. Bedding Character breccia. Composition interbedded sl brecciated ls & dolostone as for TL1, fractures throughout unit, some parts more brecciated than others. Sedimentary Structures high-amplitude stylolites throughout. Fossils stromatoporoids or stromatolites & ossicles, one clast contains many ossicles w/ star-shaped axial canals. Misc lowest part of collapsed upper unit is 18.8 m abu.
BASE OF UNIT 9.50 TOP OF UNIT 28.30 THICKNESS 6.50

UNIT TL4. Weathering Character prom ledge-former. Composition microxyn ls, locally brecciated. Misc thickness varies w/ collapse & faulting. Samples TL4 (conodonts). TL4a Sample/Slab/Thin Section Description (taken 40 cm abu), fresh surface colour; wk vlt yellowish-orange (10YR 7/2), sedimentary structures; vaguely lam, composition; 5% micrite, 35% microspar, 1% pyrite, 55% f xyn evenly dispersed dolomite, 5% porosity, extensively calcified dolomite, especially as replaced edges of dolomite rhombs. CL; an overall very dull

orange-red luminescence. Rock Name: microsparitic/sl micritic f xyn dolostone.
BASE OF UNIT 28.30 TOP OF UNIT 31.30 THICKNESS 3.00

UNIT TL5. Weathering Character rec covered interval.
BASE OF UNIT 31.30 TOP OF UNIT 49.70 THICKNESS 18.40

Note that 57 m in unit TL6 is taken as the contact between the upper and lower members of the Cape Crauford Formation.

UNIT TL6. Weathering Character prom, upper 5 m is a very prom ledge-former and an excellent marker bed. Colour WS m brown w/ black lichen covering. FS m brownish grey. Composition microxyn ls w/ wavy lams (0.5 cm thick), locally brecciated. Sample TL6 taken for conodonts. TL6a Sample/Slab/Thin Section Description (rep litho sample taken 0.30 m abu, contains convex-up structures), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; low-amplitude stylolites, wavy lam (2 cm wavelength, 3 mm amplitude), composition; 30% microspar, 30% f xyn spar, 35% f-m xyn dolomite, extensively calcified dolomite in the form of microspar replacing dolomite rhomb edges as well as (to a lesser extent) dolomite rhomb cores, 5% porosity. CL; a very dull orange-red luminescent dolomite, calcite is non-luminescent, tr bright orange-luminescent subvertical hairline fractures. FLUOR; fluorescent dolomite rhombs. Rock Name: dolomitic (f-m xyn) microsparite.
BASE OF UNIT 49.70 TOP OF UNIT 59.70 THICKNESS 10.00

G. FIELD AND SAMPLE DESCRIPTIONS FOR SECTION E, MEASURED IN 1983.

Locality: Type section of Cape Crauford Fm at Cape Crauford.
Latitude: 73°45'50"N.
Longitude: 84°55'40"W.

The base of the section starts within member B of the Baillarge Formation.
Stream north of base camp at lat. 73°45'41"N, long. 84°54'00"W, The first outcrop is 51.2 m west of Lancaster Sound on north side of stream.

UNIT Ea1. Weathering Character rec. Colour WS and FS mottled m grey and m brownish grey. Basal Contact covered. Bedding Character mottled. Bed/Lam Thickness min 4 cm, max 20 cm, mode 10 cm. Composition dolomitic ls. Ea1 Sample/Slab/Thin Section Description fresh surface colour; mottled wk vdk olive-brown (10YR 3/2) and wk lt olive-brown (10YR 6/2), sedimentary structures; low-amplitude stylolites (dolomite near stylolites) and dolomitic mottles, composition; 10% ostracods (many articulated), 1% stick bryozoans to 5 mm long, 5% ossicles, monaxon sponge spicules (composed of f xyn spar), tr gastropods to 2 mm in size, 5% micrite, 44% microspar and 10% spar in a clotted texture, 1% polyxyn quartz replaces carbonate, tr interxyn bitumen, 20% f xyn dolomite (mode 35μm) is concentrated near stylolites, dolomite rhombs are com calcified i.e., edges of large dolomite rhombs are corroded w/ ghost rhomb shape preserved, dolomite rhombs in some cases contain microspar inclusions. 5% porosity along fractures, stylolites, and between xtals/gns. CL; a uniform very dull red-luminescent dolomite, calcite is non-luminescent. FLUOR; 20% spar filling ostracods is zoned. Rock Name: mottled dolomitic ostracodal biomicrosparite.
BASE OF UNIT 0.00 TOP OF UNIT 2.25 THICKNESS 2.25

UNIT Ea2. *Outcrop starts 217 m west of the stream/Lancaster Sound junction, is 20 m long and 3 m high.* Weathering Character prom. Colour WS and FS m dk grey w/ m brownish grey mottles. Basal Contact covered by stream. Bedding Character dominantly large scale planar, small scale irregular wavy (wavelength about 10 cm), bedding cuts across mottles. Bed/Lam Thickness min 5 cm, max 50 cm, mode 20 cm. Composition mottled dolostone, gn/xtal size

mode 0.1 mm. Sedimentary Structures mottles, spheroidal regular to irregular white 'concretions' concentrated in a 0.5 m thick bed, laterally extensive throughout the outcrop-occurs 3 m abu, min size 2 cm, max 7 cm, mode 4 cm. 'Concretions' are porous, powdery, soft, some have brown rinds and are probably altered mottles. Fossils tr favositid corals, corallites lined w/ spar and filled w/ shiny brittle bitumen. Corallites filled w/ 0.5 mm spar. Mostly small in situ colonial corals, max 30 cm across w/ 4 mm diameter corallites (sampled). Ossicles constitute a relatively minor proportion. One poorly preserved 2 cm-long orthoconic nautiloid 4 m abu. Misc well indurated, bitumenous odour, two joint surfaces lined with spar, more dk grey mottles in upper part of unit, dk grey in basal 3 m, upper 3 m contains 80% dk mottles, upper 2 m is inaccessible. Ea2 Sample/Slab/Thin Section Description fresh surface colour; wk vlt yellowish orange (10YR 7/2), composition; 100% favositid coral, 5% microspar comprises corallite walls, 69% f to c xyn spar fills corallites, 1% shiny black brittle bitumen fills corallites, 5% porosity, 20% white silica replaces and fills corallites some of which is length-slow chalcedony, most however is polyxyn quartz some of which has replaced spar. CL; 5% orange-luminescent zoned spar fills corallites. FLUOR; isopachous spar lining corallites is lt fluorescent, spar filling corallites is non-fluorescent. Rock Name: favositid coral; siliceous f-c xyn sparite.
BASE OF UNIT 2.25 TOP OF UNIT 8.25 THICKNESS 6.00

UNIT E3. Rec covered interval.

The base of unit 4 is correlated within a few metres w/ the base of unit 2.

UNIT Eb4. *498 m west of stream/Lancaster Sound junction, 4.95 m asl on south side of stream.* Weathering Character prom, good exposure, lt brown mottles stand out in relief due to differential weathering. Colour WS mottled, m brownish grey, resistant mottles are lt brownish grey. FS m brownish gy, no difference in colour between mottled and unmottled mat'l on fresh surface. Basal Contact obscured by stream. Bed/Lam Thickness massive. Composition dolomitic mottled ls, xtal size <0.10 mm, dolomitic zone occurs adjacent to joints. Sedimentary Structures 30% lt mottles, 70% m-dk brown calc mat'l, mottles are elongate parallel to bedding and deflect around favositid corals and stromatoporoids. Fossils <1% favositid(?) corals, (3-5 cm in size), concentrated in places, most in place but many small corals overturned, moderately well preserved w/ bitumen filling corallites in the center of colonies, 2-3% stromatoporoids w/ preserved pillars, mushroom, bun-shaped, stacked, both in and out of place, many (mostly the smaller ones) on their sides, larger ones dominantly in place, modal size 5 cm, range 3-20 cm, mottles extend around stromatoporoids. Orthoconic nautiloids <1%-poor to well preserved, many randomly oriented orthocone frags w/ chambers, size 5 to 20 cm long, 1.5 to 4 cm wide, 2-3% ossicles, rare stem frag 1 cm long. Gastropods, <1%, poorly preserved. Mottles are randomly situated but extend around stromatoporoids and favositid corals, some ossicles occur inside mottles. Misc well indurated, bitumenous odour, well-developed joints. Eb4 Sample/Slab/Thin Section Description (taken from middle of unit, contains mottles), fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; 30% dolomitic mottles are bounded by low-amplitude stylolites, composition; 10% well preserved spheroidal stromatoporoids, 3% ossicles, 1% gastropods, 20% ostracod frags, 6% articulated ostracods, one graptolite in slab, 5% poorly defined peloids composed of microspar, 15% microspar, 10% f xyn spar, 3% silica replaces fossil frags, 3% interxyn brown opaque mat'l between dolomite xtals, 25% f-m xyn dolomite (range 25-75μm), stylolites form boundaries between dolomitic mottles and ls, 1% porosity along stylolites and fractures and 4% porosity between xtals. Rock Name: mottled dolomitic/sparry/ostracodal biomicrosparite Eb4a Sample/Slab Description (stromatoporoids from top of unit), fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; low-amplitude stylolites, composition; 54% fossils, consisting of 40% compound stacked bun-shaped stromatoporoids to 45 mm wide, one (10%) favositid coral 35 mm in size, one 1.5 mm diameter cup coral, 1 brach frag, 5% white silica replaces corals, stromatoporoids and some ostracod valves, 1% ossicles, 3% ostracods, 14% microspar, 10% spar fills corallites, 2% interxyn bitumen (especially in the dolomitic mottles), 15% f-m xyn dolomite is

concentrated in mottles, 5% interxyn porosity. CL; 1% blue luminescent fluorite after dolomite, dolomite luminesces dull red, calcite is non-luminescent. Rock Name: mottled dolomitic/sparry biomicrosparite.
BASE OF UNIT 4.95 TOP OF UNIT 5.35 THICKNESS 0.40

UNIT Eb5. Weathering Character prom, good exposure. Colour WS and FS varies dk gy w/ irregular rusty brown patches, dominantly dk grey, fossils weather white. Basal Contact abrupt irregular, large scale planar. Bedding Character planar. Bed/Lam Thickness 0.6 m. Composition dolostone w/ calc corals and stromatoporoids filled w/ bitumen, orthocones filled w/ 1 mm-sized spar between sutures, xtal size <0.1 mm, many shells recrystallized and comprised of large xtals. Central corallites of favositid corals filled with bitumen, outer corallites lined w/ spar. Fossils 2-3% stromatoporoids, range 2 to 30 cm, mode 5 cm, randomly oriented, some have a convex-up shape (6 cm wide, 10 cm high), one is 24 cm wide and filled w/ bitumen and is inclined 30° from the horizontal), 5% single ossicles, entire stems are rare but range to 2 cm long, <1% favositid corals range from 4 to 30 cm in size, bitumen com fills corals, 1 *Catenipora* (15 by 8 cm), solitary corals very rare, in place, 1.5 cm diameter w/ a columella, specimen sampled 40 cm abu, <1% brachs range to 5 cm w/ a 0.5 mm thick calc valve, tr m spired gastropods to 4.5 cm high, w/ max diameter of 5.5 cm. One orthoconic nautiloid (1%) to 20 cm long with sutures, aperture to 5 cm wide. Misc bitumenous, fractured w/ spar veins filling some fractures. Eb5 Sample/Slab/Thin Section Description (favositid coral) fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; low-amplitude stylolites, composition; 35% fossils, 10% favositid corals (one is 60 mm wide), 15% ossicles, 5% articulated and disarticulated ostracods, 5% stromatoporoids (one is 30 mm wide and well preserved), 5% peloids composed of microspar, 20% microspar, 5% spar, 5% quartz partly replaces carbonate, 3% white fibrous chalcedony, 10% bitumen along stylolites, fractures and between xtals/gns. Bitumen occurs in dolomitic mottled areas, some frags silicified, 15% m xyn dolomite is close to stylolites, calcification of dolomite is com (corroded edges and rare replaced cores), 2% porosity along stylolites. CL; dolomite in general luminesces very dull red, calcite is non-luminescent and there is a tr of blue-luminescent fluorite after dolomite. FLUOR; ossicles fluoresce a moderate white. Rock Name: mottled bitumenous/dolomitic biomicrosparite. Eb5a Sample/Slab Description (favositid coral), fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; dolomitic mottles, composition; 13% fossils, 5% favositid corals (one is a 30 mm wide frag), 5% ossicles, 3% ostracod frags, 37% microspar, 25% spar, 10% bitumen occurs preferentially in dolomitic mottles, 3% white silica spherules, 10% f-m xyn dolomite (50μm mode, ranges to 100μm), is mainly concentrated in mottles, 2% sample porosity between xtals/gns. CL; a very dull green luminescent dolomite, tr blue-luminescent dolomite, calcite is non-luminescent. FLUOR; bright fluorescent zoned spar lines and fills corallites. Rock Name: mottled bitumenous/dolomitic/sparry biomicrosparite. Eb5b Sample/Slab Description (includes a solitary coral), fresh surface colour; vwk vdk olive-brown (10YR 3/1), composition; 21% fossils, consisting of 1% solitary corals (12 mm diameter), 5% ossicles, one (5%) bun-shaped stromatoporoid 15 mm wide, 10% mainly articulated ostracods. 54% microspar, 5% spar, 4% bitumen, 1% chert partly replaces stromatoporoid and ostracod, 10% f-m xyn dolomite (50μm mode), 5% porosity between xtals/ gns. Rock Name: dolomitic/sl sparry biomicrosparite. Eb5c Sample/Slab Description (brach sample taken 40 cm abu), fresh surface colour; wk vdk olive-brown (10YR 3/2), composition; 8% fossils, 1 brach approx 35 mm wide w/ crurae(?), 2% ossicles, 5% stromatoporoids approx 30 mm in size, one is spheroidal, 1% articulated ostracods to 3 mm in size (mode 1 mm). 55% microspar, 5% spar fills fractures, 1 articulated ostracod is filled w/ c xyn spar, 7% bitumen occurs mainly in the dolomitic mottles, 2% white chert spherules, 20% f-m xyn dolomite is concentrated mainly in mottles, 3% sample porosity between xtals. Rock Name: mottled sl bitumenous/fossil-bearing/ dolomitic microsparite.
BASE OF UNIT 5.35 TOP OF UNIT 5.95 THICKNESS 0.60

UNIT Eb6. *535 m from Lancaster Sound/ stream confluence between 1st and 2nd stream bends.* Weathering Character prom, no differential weathering between mottles. Colour WS

and FS varies dk grey w/ irregular rusty brown patches, dominantly dk grey, fossils weather white. Basal Contact abrupt, planar. Bedding Character massive. Composition calc dolostone. Fossils poorly preserved stromatoporoids (1%), favositid corals and about 12 or 15 in situ solitary corals along perimeter of stromatoporoid, perhaps in life originally protected by stromatoporoid, one *Catenipora* specimen, tr (<1%) orthocones, ossicles as for unit 5. One 1 cm-sized brach is similar to *Atrypoidea*?. Misc more fractured w/ calc veins. Eb6 Sample/Slab Description (rep litho sample taken from middle of unit), fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; low-amplitude stylolites, dolomitic mottles are bounded by stylolites, composition; 25% fossils, consisting of 15% tabular stromatoporoids, 2% favositid corals to 2 cm wide, 5% ossicles and 1% ostracods. 40% microspar, 5% spar, 5% interxyn bitumen mainly in dolomitic mottles, 3% white chert partly replaces stromatoporoids, 20% f-m xyn dolomite is concentrated mainly in dolomitic mottles, 5% interxyn porosity. Rock Name: dolomitic/sl cherty/sl bitumenous biomicrosparite. Sample Eb6a-brach sample.
BASE OF UNIT 5.95 TOP OF UNIT 6.55 THICKNESS 0.60

UNIT Eb7. *535 m from Lancaster Sound.* Weathering Character semi-prom, moderately good exposure. Colour WS and FS m to dk gy w/ minor wispy lt brown areas. Basal Contact abrupt planar, irregular on a small scale. Bedding Character planar lam. Bed Thickness min 15 cm, max 35 cm, mode NA. Composition calc dolostone, xtal size <0.1 mm, calcite concentrated in small veinlets, white dolomite xtals on some fracture surfaces. Sedimentary Structures some wispy mottles. Fossils 5% ossicles, only 1 brach, rare stromatoporoids, one is overturned and moderately well preserved, rare colonial corals, one by stromatoporoid has bitumen filling the central corallites, one orthoconic nautiloid. Misc outcrop partly covered, unit is fractured and rocks are loose in outcrop, few bedding surfaces preserved, bitumenous odour. Eb7 Sample/Slab/Thin Section Description (rep litho sample from middle of unit), fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; low-amplitude stylolites and dolomitic mottles, composition; 25% partly dolomitic fossils, 5% ossicles, 1 stick bryozoan frag, 1 brach valve 7 mm wide, 20% ostracod frags, 35% peloids ranging from 50 to 250μm in size (100μm mode) composed of microspar. 5% micrite, 5% microspar, 5% spar fills subvertical microfractures and the centers of articulated ostracods, 5% bitumen, dolomite replaces or partly replaces fossil frags, total 15% f-m xyn dolomite (50μm size mode), extensively calcified dolomite, dolomite rhombs are com replaced by composite spar. 5% porosity. FLUOR; vugs are filled w/ fluorescent-zoned spar. Rock Name: sl bitumenous dolomitic biopelmicrosparite. Eb7a Sample/Slab Description (orthoconic nautiloid from top of unit), fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; dolomitic mottles, low-amplitude stylolites, some at right angles to bedding, composition; 30% fossils, consisting of one orthocone frag (20 mm diameter by 40 mm long), one 7 mm diameter solitary coral, one 30 mm wide favositid coral frag, 10% undifferentiated bioclastic debris, 40% microspar, 10% spar fills corallites, 2% white silica partly replaces walls of solitary and colonial corals, 15% f-m xyn dolomite (50μm mode), dolomitic mottled areas are bounded by low-amplitude stylolites. 5% interxyn porosity. CL; tr moderately blue-luminescent fluorite after dolomite, generally in fossil frags, especially ossicles. In general, dolomite is dull red-luminescent and calcite is non-luminescent. Rock Name: mottled dolomitic/sparry biomicrosparite.
BASE OF UNIT 6.55 TOP OF UNIT 8.05 THICKNESS 1.50

UNIT Eb8. Weathering Character semi-prom, poorly exposed, partly covered, steep and inaccessible. Colour WS and FS-m to dk gy w/ minor lt brown wispy areas. Basal Contact abrupt planar. Bedding Character planar. Bed Thickness min 20 cm, max 50 cm, mode 30 cm. Composition calc dolostone, xtal size <0.1 mm. Sedimentary Structures varies between mottled and wispy, high-amplitude stylolites. Fossils tr, nonexistant in lower 8 m of unit, become more abundant in uppermost 2 m of unit, 5% ossicles, one orthoconic nautiloid 8 m abu, tr (<1%) well-preserved stromatoporoids, more tabular in shape, but some convex-up growths, some overturned but most in place, <1% colonial corals. Solitary corals are very rare, 4 found approx 8 m abu, 3 clustered together, approx 1.5 cm diameter, tr brachs, 2

about 8 m abu, tr chain corals-(possibly *Catenipora*). Misc unit fractured into clasts about 0.4 m in size. Bitumenous odour when struck. Bed of white concretions from 6.9 to 7.5 m abu (similar to those in unit Ea2). The second bed contains white concretions 9 m abu, joint surfaces have subvertical slickensides lined w/ dolomite. Eb8 Sample/Slab/Thin Section Description fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; dolomitic mottles, high-amplitude (to 2 mm) stylolites com form boundaries of dolomitic mottles, composition; 10% intraclasts to 10 mm in size composed of pelmicrospar/spar, 13% fossils consist of 10% shell frags (probably ostracods), 1 gastropod, 1 ostracod, 1% brach and brach frags (1 plicated brach is 5 mm wide), one (1%) solitary coral (3.5 mm in diameter), tr ossicles, 18% peloids (75μm modal size), 10% microspar, 15% mainly f xyn spar, 2% bitumen, 2% white silica spherules to 2.5 mm in size replace carbonate, 25% f-m xyn dolomite (40μm mode) is concentrated in dolomitic mottles, composite spar replaces some dolomite rhombs (calcified dolomite). 5% porosity (1% along stylolites and 4% between xtals, interxyn porosity is especially high near stylolites). FLUOR; white fluorescent spar fills ostracods. Rock Name: mottled dolomitic/intraclastic/ microsparitic stromatoporoidal biopelsparite. Eb8b Sample/Slab Description (solitary coral taken 8 m abu), fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; high amplitude (to 3 mm) stylolites form the boundaries of dolomitic mottles, composition; 20% tabular stromatoporoids to 80 mm long and 20 mm thick, 2% favositid coral frags (1 frag is 24 mm long), 1 solitary coral, 1% articulated ostracods, 45% microspar, 10% spar fills fractures and articulated ostracods, 5% white silica partly replaces fossil frags, 2% interxyn shiny black bitumen, occurs preferentially in dolomitic mottles, 10% f-m xyn dolomite is concentrated in dolomitic mottles, 5% interxyn porosity. CL; dull red-luminescent dolomite, tr bright orange-luminescent vug-filling spar, however, calcite is mainly non-luminescent. Rock Name: mottled dolomitic/sparry/stromatoporoidal biomicrosparite. Sample Eb8a (conodont sample).
BASE OF UNIT 8.05 TOP OF UNIT 18.05 THICKNESS 10.00

UNIT E9. Rec covered interval.
BASE OF UNIT 8.05 TOP OF UNIT 26.40 THICKNESS 18.35

UNIT Ec10. Weathering Character semi-prom, poorly exposed, partly covered by scree, steep and inaccessible. Colour WS-mottled as for unit Eb8, FS-no lt brown mottles. Basal Contact covered by snow, probably equivalent to top of Eb8 or E9. Bedding Character large scale planar, small scale irregular. Bed Thickness min 8 cm, max 50 cm, mode 15 cm. Composition dolomitic ls, carb films on bedding surfaces, <0.1 mm xtal size. Sedimentary Structures lt brown, mottles are elongate parallel to bedding, size variable, irregular, some mottles wispy or wavy. Fossils <1% orthoconic nautiloids (one is 2.5 by 7 cm w/ well-preserved sutures), 5% ossicles, 1% poorly preserved stromatoporoids (more calc than the rest of rock), both in and out of place, one is 6 cm across, 4 cm high and bun-shaped. 1% colonial corals (17 cm wide by 2.5 cm high), tabular, 0.5 m abu, both in and out of place, some with bitumen filling the central corallites. Misc highly fractured w/ numerous calc veinlets, bitumenous odour upon striking. Ec10 Sample/Slab/Thin Section Description (of stromatoporoid and litho sample taken 2 m abu), fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; 20% irregular calc dolostone mottles, low-amplitude stylolites form boundaries of calc dolomitic mottles, composition; 3% intraclasts (one is 5 mm long), 46% fossils, consist of 5% ossicles, 1% bryozoans, 15% ostracods (many articulated and most <1 mm in size), <1% gastropods filled w/ pelmicrospar, 1 green algal(?) frag, 5% undifferentiated shell frags, 3% favositid corals (one 2 cm spheroidal specimen), 15% stromatoporoids, 1 solitary coral (1.5 mm diameter), 1% ossicles. 5% peloids composed of microspar (mainly in fossils), 16% microspar between peloids, 10% spar fills corallites and fractures, 1% white silica partly replaces favositid coral walls, 25% f-m xyn dolomite (50μm mode), minor calcification, dolomite is concentrated in mottles. 5% porosity between xtals/gns and along stylolites. Misc spar fills vertical fractures related to offsets due to dissolution along stylolites. CL; non-luminescent except for 1% moderate blue-luminescent fluorite after dolomite. FLUOR; fluorescent spar fills ostracods. Rock Name: mottled dolomitic/sparry biomicrosparite. Ec10a Sample/Slab/Thin Section Description (of an in-situ favositid coral 2 m abu), fresh surface

colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; dolomitic mottles and low-amplitude stylolites, composition; 100% favositid coral, corallites are 5 mm in size and filled w/ 40% spar (to c xyn), 1% interxyn bitumen, 54% dolomite rhombs replace corallites, rhombs to 100μm in size, calcified dolomite is very com, m xyn dolomite fills corallites, 5% interxyn porosity. CL; calcite is non-luminescent except for 5% complexly-zoned orange-luminescent spar filling corallites, dolomite luminesces a very dull red except for tr moderately blue-luminescent fluorite after dolomite. FLUOR; white fluorescent overgrowths on spar filling corallites. Rock Name: mottled dolomitic/sparry favositid coral.
BASE OF UNIT 26.40 TOP OF UNIT 29.80 THICKNESS 3.40

UNIT Ec11. Rec covered interval.
BASE OF UNIT 29.80 TOP OF UNIT 31.40 THICKNESS 1.60

UNIT Ec12. Same composition as unit Ec10. Fossils same as Ec10 but contains brachs and gastropods as well. One 1 cm-sized plicated brach sampled. Tr (<1%) gastropods, one is 1.5 cm wide. Ec12 Sample/Slab/Thin Section Description fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; dolomitic mottles, low-amplitude stylolites accentuated by dk residue, composition; 41% fossils, consist of 1% articulated ostracods to 1 mm in size, 20% ostracod shell frags, 10% ossicles (many dolomitized), 1% brach frags, 1 plicated 1 cm wide brach valve, 10% undifferentiated bioclastic debris, tr bryozoan frags, 5% peloids, 5% micrite, 16% microspar, 5% spar, 1% white silica spherules to 4 mm in size, 2% interxyn bitumen, 20% f-m xyn dolomite (50μm mode) concentrated in dolomitic mottles, est 2% lt brown mainly clay-sized inclusions, minor calcified dolomite, 5% porosity along fractures and between xtals/gns. CL; non-luminescent except for tr amounts of moderately blue-luminescent fluorite after dolomite. FLUOR; spar filling vugs displays fluorescent zonation. Rock Name: dolomitic ostracodal biomicrosparite. E12a Sample/Slab/Thin Section Description (taken 1 m abu, contains a gastropod and a 2.1 cm long echinoderm stem frag), fresh surface colour; wk vdk olive-brown (10YR 3/2), low-amplitude stylolites, tr algae, 1% partly silicified brachs, 2% articulated ostracods (<1 mm in size), 10% ostracod valve frags, 3% ossicles, 1% *Catenipora*. 30% peloids (size mode 100μm), 10% micrite, 13% microspar, 15% spar (fills fractures and articulated ostracods and occurs between peloids), 1% interxyn bitumen, 5% white silica, 2-3 silicified brach and ostracod valves, stylolites w/ concentration of dk brown residue, 5% dolomite com contains microspar/spar inclusions. 5% porosity (2% along fractures and 3% between xtals). CL; non-luminescent except for 1% moderately blue-luminescent fluorite after dolomite, some of which is concentrated in ossicles. FLUOR; spar filling vugs and ostracods is fluorescent. Rock Name: mottled micritic/microsparitic/ sl dolomitic/ostracodal biopelsparite.
BASE OF UNIT 31.40 TOP OF UNIT 33.90 THICKNESS 2.50

UNIT E13. Rec covered interval.
BASE OF UNIT 33.90 TOP OF UNIT 37.15 THICKNESS 3.25

UNIT Ed14. 1,392 m west of Lancaster Sound. Weathering Character semi-prom, good exposure, 2 m wide by 2.6 m high. Colour WS m-dk gy w/ minor lt brown and wispy mottles. FS m-dk grey aa, mottled. Basal Contact covered. Bedding Character large scale planar, small scale irregular. Bed Thickness min 3 cm, max 25 cm, mode 7 cm. Composition calc dolostone, modal xtal size 0.25 mm. Sedimentary Structures mottled, 20% lt mottles, 80% dk mottles. Fossils stromatoporoid-grown on coral, colonial corals-one small chain coral, a few favositids, 5% ossicles, brach shell frags. Misc small outcrop of mottled(?) dolostone on south side of stream from 1,650 m to 1,754 m from Lancaster Sound, but mostly covered.
BASE OF UNIT 37.15 TOP OF UNIT 39.75 THICKNESS 2.60

UNIT Ee15. *At 1,920 m outcrop Ee on north side of stream is correlative w/ Ed14. Starting to measure 5.85 m horizontally below the top of Ed14. There is no exposure between Ed14 at 1,392 m and Ee15 at 1,876 m.* Weathering Character prom, outcrop is 65 m long and 8 m wide, bedding plane surfaces are exposed in a step-like fashion. Colour WS m-dk grey w/

minor lt brown and wispy mottles. FS m-dk grey and mottled, 40% lt, 60% dk mottles. Basal Contact covered. Bedding Character large scale planar, irregular on scale of mottles. Bed/Lam Thickness min 5 cm, max 30 cm, mode 15 cm. Composition calc dolostone, xtal size approx 0.1 mm. Sedimentary Structures mottles (both vertical and horizontal). Fossils approx 1% colonial corals, large ones in place, small ones both overturned and in place, one is 70 cm long and 13 cm high 2 m abu, isolated favositid corals w/ central corallites filled w/ bitumen, another is about 2 m wide and 15 cm high, <1% orthoconic nautiloids, one at base is 8 cm long and 3 cm wide, another is 20 cm long and 2.5 cm wide, ossicles are locally abundant to 20% on some bedding plane surfaces (avg 3-5%), one echinoderm stem is 2.5 cm long (0.25 m abu), tr gastropods, 1 on bedding surface 2.25 m abu is planispiral and 10 cm in diameter, approx 1% stromatoporoids, a large 20 cm wide in-place bun-shaped specimen 0.25 m abu. Ee15 Sample/Slab/Thin Section Description (taken 2.25 m abu), fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; 35% dolomitic mottles bounded by low-amplitude stylolites accentuated by brown residue, 37% fossils, 10% ossicles and one echinoderm stem (1 mm wide and 4 mm long), 15% ostracod shell frags, 10% m-spired gastropods to 30 mm high, 15% poorly defined peloids composed of microspar, 5% micrite, 18% microspar, 4% spar, 1% interxyn bitumen, 15% f-m xyn dolomite (mode 50μm) concentrated in dolomitic mottles. 5% porosity is distributed as 2% along fractures, 1% along stylolites, and 2% between xtals/gns. CL; tr moderate blue-luminescent fluorite after dolomite. Most of the dolomite, however luminesces a very dull red, the calcite is non-luminescent except for bright orange-luminescent spar veinlets. Rock Name: mottled dolomitic/sl sparry/sl micritic biopelmicrosparite. E15a Sample/Slab Description (taken at base of unit), of 11 cm-sized *Catenipora* colony, fresh surface colour; wk dk olive-brown (10YR 4/2), composition; *Catenipora*, 45% f-c xyn spar fills corallites, 50% f-m xyn dolomite occurs between corallites, 5% interxyn porosity. Rock Name: sample of 11 cm wide *Catenipora* colony. Misc bitumenous odour.
Unit Ee15 continued on north side of creek. *Outcrop Ee15 on north side starts at 1941 m and continues to 2,040 m from Lancaster Sound. Fork at creek occurs at 2080 m.* Fossils favositid(?) colonial corals to 1 m wide by 15 cm high occur 2.25 m abu. Overturned favositid coral 10 cm wide-on its side approx 2.25 m abu. Orthocones and gastropods also present. One very small (3 mm diameter) solitary coral, approx 2.25 m abu. Ossicles in lt mottles occur w/ the same percentage in the dk mottles. Orthocones-one at 2.75 m abu is at right angles to bedding, large one 5 cm in diameter and 14 cm long is situated about 1.25 m abu. Brachs-at 2,038 m on south side of stream. Misc dip is 2°E. Two joint surfaces occur approx at right angles to each other in outcrop, calcite com on joint surfaces.
BASE OF UNIT 33.90 TOP OF UNIT 39.75 THCKNESS 5.85

UNIT Ef16 Description as for Ee15. E16 Thin Section Description fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; dolomitic mottles and low-amplitude stylolites, composition; 5% rd intraclasts (2 mm mode), 25% ostracod shell frags, 2% ossicles, and one small green algal(?) frag, 32% peloids are composed of microspar. Orthochems include 5% micrite, 6% microspar, and 5% spar, 2% polyxyn quartz partly replaces fossil frags, 15% f-m xyn dolomite, calcified dolomite is com. Sample porosity is 5% mainly between xtals/gns. CL; dolomite luminesces a uniform, very dull red except for rare blue-luminescent fluorite after dolomite, calcite is non-luminescent except for bright orange-luminescent subvertical veinlets. FLUOR; zoned spar fills ostracods. Rock Name: dolomitic/sl intraclastic/sparry/micritic ostracodal biopelmicrosparite. Misc dip is 2°E at top of unit (45.35 m asl).
BASE OF UNIT 39.75 TOP OF UNIT 45.35 THICKNESS 5.60

UNIT E17. Rec covered interval.
BASE OF UNIT 45.35 TOP OF UNIT 51.95 THICKNESS 5.60

UNIT Eg18. *Outcrop on north side of valley is 13.25 m high and occurs from 2,314 m to 2,366 m from Lancaster Sd.* Description as for Ee15. Composition calc dolostone. Fossils numerous but <1% chain corals 6.60 m abu (sampled). A few solitary corals 8.0 m abu. Misc

white irregular concretions in a zone 0.60 m thick 8.25 m abu. Eg18 Sample/Slab/Thin Section Description (litho sample w/ 'concretions' taken 8.25 m abu), fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; dolomitic mottles bounded by stylolites, composition; 14% fossils, one overturned 80 mm wide favositid coral, 5% of skeleton is replaced by chert, some corallites filled w/ polyxyn quartz, others w/ length-slow chalcedony, tr *Catenipora* 7 mm long, 1% ostracods, 2% stromatoporoids (one is 30 mm in size), 1% monaxon sponge spicules. 10% peloids, some occur as part of geopetal structure in corallites i.e. peloids at base of corallites are overlain by spar. 40% microspar, 10% spar, 1% bitumen, 20% f-m xyn dolomite (50µm modal size), extensive calciified dolomite. 5% porosity along stylolites and between xtals/gns. CL; non-luminescent except for dull red luminescent dolomite. FLUOR; fluorescent-zoned spar fills corallites. Rock Name: dolomitic/ostracodal biopelmicrosparite. E18a Sample/Slab Description (chain coral taken 6.6 m abu), fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; low-amplitude stylolites, composition; *Catenipora* 12 cm in size, 52% spar fills corallites, 3% interxyn bitumen, 5% white chert replaces part of coralline wall structure, 35% f-m xyn dolomite between walls, also parts of the walls are replaced by dolomite. 5% interxyn sample porosity. Rock Name: *Catenipora* consists of mottled dolomitic sparite.
BASE OF UNIT 51.95 TOP OF UNIT 65.20 THICKNESS 13.25

The top of E18 is taken as the contact between the Baillarge and Cape Crauford formations.

UNIT E19. Rec covered interval across from Ee15 on south side of stream.
BASE OF UNIT 39.75 TOP OF UNIT 58.75 THICKNESS 19.0

60.0 m in section Ea is taken to be equivalent to 61.5 m in section Eb.

UNIT Eh20. Weathering Character prom good exposure, Colour WS and FS-m grey. Basal Contact covered. Bedding Character parallel thinly bedded to interlam, dk greyish brown and buff, locally brecciated (mainly mosaic but w/ rubble breccia veins). Bed Parting Thickness-min 1 cm, max 15 cm, mode 3 cm. Composition dolostone, xtal size approx 0.1 mm. About 15% of unit consists of grey intraclasts (max 15 mm long, most of which are elongate, mode 5 mm long, 1 to 3 mm wide). Locally mosaic to rubble breccia. Sedimentary Structures vague normal grading of intraclast size, lams wavy (possibly ripple marks), minor bioturbation. Eh20 Sample/Slab/Thin Section Description (litho sample taken about 1 m abu), fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; interlam to thinly interbedded intraclastic-rich and poor lams/beds, intraclasts to 30 mm long, elongate parallel to bedding, composition; 20% intraclasts composed of dolomitic f xyn spar, 5% undifferentiated bioclastic debris, tr ossicles. 5% micrite, 5% microspar, 'matrix' is sparry f-m xyn dolostone, 60% f-m xyn dolomite dispersed in lams, calcified dolomite com. 5% sample porosity along stylolites and between xtals/gns. CL; entirely non-luminescent. Rock Name: intraclastic/sl fossiliferous f-m xyn dolostone.
BASE OF UNIT 58.75 TOP OF UNIT 60.35 THICKNESS 1.60

UNIT Eh21. Weathering Character semi-prom. Colour WS and FS-m brownish grey. Basal Contact abrupt planar. Bedding Character vaguely defined dk lams. Bed/Lam Thickness mode 1 mm (poorly defined). Composition calc dolostone, xtal size 0.1 mm, 1% irregularly-shaped vugs to 1.5 cm in size, separated by about 3 to 4 cm. Fossils 2-3% brachs to 8 mm in size, shell thickness 0.4 mm, rhynchonellids(?) lined w/ dolomite, minor moderately well-preserved stromatoporoids, ostracods appear in thin zone 5 cm thick 0.85 m abu, are up to max 10 mm long, mode 4 mm. Misc well indurated, some small subvertical carbonate veinlets. Bitumenous odour upon striking. Eh21 Sample/Slab/Thin Section Description (litho sample contains a few brachs 0.3 m abu), fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; low-amplitude stylolites w/ very minor dolomitic mottles, composition; 15% intraclasts to 5 mm long, composed of pelmicrospar or microspar, 30% articulated and disarticulated plicated rhynchonellid brachs to 1 cm wide, wall structure well preserved, 15% peloids are composed of microspar, especially inside articulated brachs. 15% microspar, 14%

spar fills brachs, 1% white silica partly replaces brach valves, 5% f-m xyn dolomite (mode 40μm) is mainly dispersed but some dolomitic mottles occur along low-amplitude stylolites, calcified dolomite com. 5% porosity along fractures, stylolites and vugs between articulated brach valves. CL; 15% bright orange-luminescent calcite, mainly in fossil frags, 1% blue-luminescent fluorite after dolomite. FLUOR; fluorescent spar lines corallites. Rock Name: sl dolomitic/intraclastic brachiopodal biopelmicrosparite. E21a Sample/Slab Description (ostracod sample taken 0.85 m abu), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; dolomitic mottles, composition; 2% smooth ostracods to 7 mm in size, 72% microspar, 1% bitumen, 20% f-m xyn dolomite (50μm mode) concentrated in mottles. 5% porosity. Rock Name: mottled dolomitic microsparite.
BASE OF UNIT 60.35 TOP OF UNIT 62.75 THICKNESS 2.40

UNIT Eh22. Weathering Character prom. Colour WS & FS-interlam m buff and dk gy lams. Basal Contact abrupt, sl wavy (wavelength 20 mm, amplitude 5 mm). Bedding Character interlam m buff and dk gy lams. Bed/Lam Thickness mode 1-2 mm. Composition dolomitic ls, xtal size <0.1 mm. Sedimentary Structures hummocky structures, wavelength 40 cm, amplitude 2 cm. Misc well indurated, bitumenous odour. E22 Sample/Slab/Thin Section Description (rep litho sample), fresh surface colour; interlam wk xlt yellowish orange (10YR 8/2) and wk dk olive-brown (10YR 4/2), sedimentary structures; contorted stratification(?), composition; 40% peloids (composed of microspar) range from 50 to 200μm, mode is 100μm. 5% f xyn spar, 10% moulds of blade-shaped xtals the long-axes of which are at a high angle to bedding, some f xyn spar replaces blade-shaped xtal moulds, 40% vf-f xyn dolomite (25μm mode) occurs around peloids, calcified dolomite is very com. 5% porosity along stylolites and as lath-shaped xtal moulds. CL; 20% bright orange-luminescent composite spar after gypsum xtals. Rock Name: evaporite xtal mouldic dolomitic pelsparite.
BASE OF UNIT 62.75 TOP OF UNIT 63.05 THICKNESS 0.30

UNIT Eh23. Weathering Character prom. Colour WS-buff and m dk gy (breccia), FS-lt to m grey. Basal Contact abrupt, convex-up (wavelength 10 cm, amplitude 1 cm), irregular on a small scale. Bedding Character mosaic breccia. There is a 3 cm thick unbrecciated lam zone in center of unit. Bed/Lam Thickness 1 to 2 mm thick lams in unbrecciated zone. Composition clast-supported breccia (70% 'clasts', 20% 'matrix'). Clast size max 30 mm, min 2 mm, mode 10 mm, ungraded, clasts are randomly oriented, sbang except at top of bedded part and are subparallel w/ each other. Interclast porosity approx 10%, good permeability. Sedimentary Structures high-amplitude stylolites at top of breccia. Misc breccia is laterally continuous for 4 to 5 m. E23 Sample/Slab/Thin Section Description fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; planar to sl wavy lams in unbrecciated part, basal 40 cm and upper 15 cm of sample is crackle breccia, high-amplitude (to 3 mm) stylolites, evidence of considerable dissolution where basal breccia clasts are now 'lodged' in an overlying 25 mm thick unbrecciated lam zone, boundaries between some rotated clasts and unbrecciated lam unit are stylolites, subvertical fractures terminate at stylolites, vugs between clasts range to 1 cm in size, composition; 25% porosity, breccia clasts are composed of microsparite/f xyn sparite, clast size min 2 mm, max 10 mm, mode 7 mm, 'matrix' between 'clasts' is f xyn sparite, 5% f xyn dolomite. Rock Name: m calcirudite-sized breccia; sl dolomitic/microsparitic/f xyn sparite 'clast' f xyn sparite 'matrix' crackle (stylo-) breccia.
BASE OF UNIT 63.05 TOP OF UNIT 63.14 THICKNESS 0.09

UNIT Eh24. Weathering Character prom. Colour WS and FS-m grey. Basal Contact abrupt planar. Bedding Character faintly-defined planar lams/beds. Bed/Lam Parting Thickness min 4 cm, max 20 cm, mode 8 cm. Composition calc dolostone (dolarenite?), gn/xtal size 0.2 to 0.3 mm. E24 Sample/Slab Description (rep litho sample taken 3.3 m abu), fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; low-amplitude stylolites, composition; 59% microspar, 1% composite f xyn spar pseudomorphic after gypsum xtals (to 0.5 mm in size), 35% f xyn dolomite is evenly dispersed and calcified dolomite is com. 5% porosity along stylolites and between xtals/gns. CL; non-luminescent except for 1% composite spar w/ bright orange-luminescent overgrowths. Rock Name: dolomitic microsparite.

BASE OF UNIT 63.14 TOP OF UNIT 66.74 THICKNESS 3.60

The top of E24 is taken as the contact between the Baillarge and Cape Crauford formations.

UNIT Eh25. Weathering Character prom. Colour WS & FS-m grey (breccia). Basal Contact obscured by scree. Bedding Character breccia. Composition clast-supported crackle breccia, 70-80% clasts are calc dolostone, 15% vugs, clast size variable (1 cm mode?). 5-15% calc 'matrix', numerous high-amplitude stylolites. Sedimentary Structures high-amplitude (to 2 cm) stylolites are abundant throughout unit and define a lineation at right angles to bedding. Fossils none. Misc well indurated, bitumenous odour. E25 Sample/Slab/Thin Section Description (rep litho sample of breccia contains many stylolites), fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; very high amplitude and numerous stylolites, composition; 35% microspar, 25% f xyn spar, 1% brown residue along stylolites, 25% vf xyn dolomite and f xyn relict dolomite, very extensively calcified dolomite, 15% porosity along stylolites/fractures and between clasts, 80% clasts (min size 2 mm, max 20 mm, mode 7 mm). CL; 2% bright orange-luminescent composite spar after gypsum xtals, 'matrix' between clasts is dull orange-luminescent clear spar. Rock Name: dolomitic sparry microsparite 'clast' crackle (stylo-) breccia.
BASE OF UNIT 66.74 TOP OF UNIT 67.24 THICKNESS 0.50

UNIT Eh26. Rec covered interval.
BASE OF UNIT 67.24 TOP OF UNIT 68.49 THICKNESS 1.25

UNIT Eh27. Weathering Character prom. Colour WS-lt greyish brown, FS-m brown. Basal Contact obscured by scree. Bedding Character planar lam. Bed/Lam Thickness lams faintly defined, about 1.0 cm mode. Composition dolomitic ls, xtal size 0.2 mm, 2% mm-sized pores. Sedimentary Structures planar lams. Fossils many frags on bedding plane surfaces, frag modal size 2.0 mm, are darker coloured, tr 1 cm-sized frags of brachs or ostracods. E27 Sample/Slab/Thin Section Description (litho sample taken 1.95 m abu), fresh surface colour; m olive-brown (10YR 5/3), sedimentary structures; low-amplitude stylolites, composition; 30% intraclasts to 6 mm in size, 2% undifferentiated shell frags, 45% peloids (composed of microspar), 12% microspar and 5% f to m xyn spar between peloids/intraclasts, 1% bitumen, 5% f xyn dolomite (mode 30μm) dispersed and in small patches along stylolites, minor calcified dolomite. 5% porosity along stylolites and between xtals/gns. CL; non-luminescent except for very dull luminescent dolomite. Rock Name: sl dolomitic/sl sparry peloidal intramicrosparite. Sample Eh27a taken for conodonts.
BASE OF UNIT 68.49 TOP OF UNIT 70.84 THICKNESS 2.35

UNIT Eh28. Weathering Character prom. Colour WS and FS-variable buff and m dk gy patches. Basal Contact abrupt planar. Bedding Character breccia w/ coated clasts. Composition dolomitic ls coated 'clast' sparite 'matrix' breccia, 5% small vugs. Sedimentary Structures 70% coated clasts, mode 3 cm, max 7 cm. Misc plunge of syncline is 36°S, strike is EW. Eh28 Sample/Slab/Thin Section Description (rep litho sample taken at top of unit contains coated clasts), fresh surface colour; coated clasts are wk vdk olive-brown (10YR 3/2) in a wk vlt yellowish orange (10YR 7/2) 'matrix', sedimentary structures; vugs to 2 cm in size, low-amplitude stylolites, composition; 60% coated breccia clasts, coatings on clasts comprise 20% of rock and consist of clotted microsparite/sparite, minor porosity, tr one poorly preserved ostracod ghost, 40% peloids composed of microspar. 50% f and m xyn spar, tr white silica, 25% f xyn dolomite (mainly between coated clasts), very extensive calcification of dolomite between coated clasts, also extensive porosity com where leaching of calcite has occurred. Note: dissolution of calcite probably caused the brecciation. Porosity is distributed as 10% vugs to 2 cm in size and 5% between xtals/gns. Rock Name: dolomitic/sparry coated clast breccia. Misc units Eh20-28 were measured on the limb of a plunging anticline. The interval between outcrop Eh and Ej is mainly covered and therefore difficult to correlate. Unit Eh25 breccia is traceable in major outcrop Ei on eastern limb of a plunging anticline. (plunge is 12°N, limb dips 30°E). Stream has formed along crest of anticline. Ej breccia is

thicker than in outcrop Ei which is near crest of anticline and slickensides on bedding plane are perpendicular to the axis of the anticline. Base of Ej is approx equal to bioturbated unit Ee15. There is a 6 m thick mottled unit between 2,225 m and 2,261 m west of Lancaster Sound. At 6.0 m abu the mottle size decreases.
BASE OF UNIT 70.84 TOP OF UNIT 71.64 THICKNESS 0.80

The base of unit Ej29 is taken as approx 29.7 m above the top of unit Ee15 (equivalent to the top of Ee14).

UNIT Ej29. Mottled calc dolostone,
BASE OF UNIT 39.75 TOP OF UNIT 45.75 THICKNESS 6.00

UNIT Ej30 Weathering Character semi-prom. Colour WS-dk grey and m brownish grey mottles. FS-m to dk grey. Basal Contact trans over 10 cm from mottles 2 cm in size to smaller 1 cm-sized mottles. Bedding Character mottles are elongate parallel to bedding. Bed Thickness massive. Composition dolomitic ls (xtal size 0.1 to 0.2 mm) w/ spar veinlets. Sedimentary Structures mottles. Fossils tr randomly oriented orthoconic nautiloids, 2-3% brachs at base increase up-section to 5%, weather out but are poorly preserved, <1% gastropods weather out, 1-3 cm in size, not well preserved. Misc bitumenous odour, fairly permeable, calcite veinlets cross-cut bedding. Ej30 Sample/Slab Description (rep litho sample w/ brachs taken near top of unit), fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; low-amplitude stylolites, composition; 10% plicated articulated and disarticulated brachs to 8 mm in size, articulated ones are filled w/ microspar and pelspar. 15% microspar, tr spar, 70% f-m xyn dolomite. 5% interxyn porosity. Rock Name: brachiopodal microsparitic f-m xyn dolostone. Sample Ej30a taken for conodonts.
BASE OF UNIT 45.75 TOP OF UNIT 47.65 THICKNESS 1.90

UNIT Ej31. Rec covered interval.
BASE OF UNIT 47.65 TOP OF UNIT 55.15 THICKNESS 7.50

UNIT Ej32. Weathering Character semi-prom. Colour WS-variably interlam, m brownish grey and dk grey. FS-lt to m grey. Basal Contact covered. Bedding Character interlam m brownish grey and dk grey laterally continuous lams 'pinch and swell'. Bed/Lam Thickness min 1.0, max 4.0, mode 3.0 mm, good bedding plane parting. Composition dolostone w/ 0.1 to 0.2 mm xtal size, small vugs <1% resemble brach valve moulds to 1 cm in size. Sedimentary Structures planar lams. Misc subvertical slickensides, bitumenous odour, joint faces are lined w/ spar. Ej32 Sample/Slab/Thin Section Description (rep litho sample taken near top of unit), fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; moderate bioturbation (subvertical 'tubes' to 4 mm in diameter cross-cut vague lam), composition; 1% f xyn spar patches along fractures, 89% f xyn dolomite (50μm mode), porous areas contain corroded dolomite rhombs, 10% interxyn porosity. CL; non-luminescent. Rock Name: mottled f xyn dolostone.
BASE OF UNIT 55.15 TOP OF UNIT 55.90 THICKNESS 0.75

UNIT Ej33. Weathering Character prom. Colour WS and FS-m brown. Basal Contact abrupt planar. Bedding Character vague laterally continuous planar bedding, irregular on a small scale. Bed Thickness min 5 cm, max 20 cm, mode 10 cm. Composition dolomitic ls w/ some spar veinlets, microxyn, small bitumenous flakes. Sedimentary Structures lam as described, some subvertical slickensides, vague bituminous lams, though massive beds in between. Ej33 Sample/Slab/Thin Section Description (rep litho sample taken 2.0 m abu), fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; low-amplitude stylolites, misc; extensively fractured, composition; 39% peloids (composed of microspar), size ranges from 25 to 75μm, mode 50μm, 10% microspar between peloids, 20% microspar between peloid clusters, 1% bitumen fills fractures, 25% f xyn dolomite (50μm mode) is concentrated near stylolites and in dolomitic mottles, extensive calcification of dolomite, 5% porosity along fractures, stylolites and between xtals/gns. CL; excellent examples of bright

orange-luminescent subvertical fracture-filling spar. Gypsu xtals (pseudomorphed? by composite bright orange-luminescent spar) occur only alongside fractures. This constraint requires that the gypsum was formed at the same time as or after the fractures. Rock Name: dolomitic pelmicrosparite.
Sample Ej33a taken for conodonts.
BASE OF UNIT 55.90 TOP OF UNIT 58.90 THICKNESS 3.00

UNIT Ej34. Rec covered interval 2,402 m from Lancaster Sound.
BASE OF UNIT 58.90 TOP OF UNIT 60.40 THICKNESS 1.50

UNIT Ej35. Weathering Character semi-prom, litho as for Ej33 except that there is a pod of breccia on top, small outcrop 3 m long and 0.6 m high. Composition breccia clasts min 2 mm, max 10 mm, mode 5 mm, subequant, sbang to ang. Sedimentary Structures high-amplitude stylolites. Ej35 Sample/Slab Description (taken of breccia 0.5 m abu), fresh surface colour; m olive-brown (10YR 5/3) 'clasts' in a vlt yellowish orange (10YR 7/3) 'matrix', sedimentary structures; very high amplitude (to 20 mm) stylolites, composition; 15% porosity along stylolites and between clasts, 85% breccia clasts are composed of microsparite/f xyn sparite, min size 2 mm, max size 15 mm, mode 7 mm. Rock Name: m calcirudite-sized microsparite/f xyn sparite 'clast' crackle breccia.
BASE OF UNIT 60.40 TOP OF UNIT 61.00 THICKNESS 0.60

UNIT Ej36. Rec covered interval.
BASE OF UNIT 61.00 TOP OF UNIT 62.85 THICKNESS 1.85

UNIT Ej37. Description as for Ej33 except as noted. Basal Contact covered. Bedding Character faintly lam, more massive, unfossiliferous, good fracture porosity and permeability, subvertical fractures filled w/ carbonate. Bed Thickness min 3 cm, max 25 cm, upper part more fractured. Composition; breccia. Sedimentary Structures; high-amplitude stylolites occur in a 30 cm zone immediately below the breccia. Misc fault w/ 30 cm apparent offset.
BASE OF UNIT 62.85 TOP OF UNIT 63.65 THICKNESS 0.80

UNIT Ej38. Weathering Character rec. Colour WS and FS-buff. Basal Contact abrupt where unbrecciated to trans in brecciated interval. Bedding Character faintly visible, laterally changes to breccia, lam to bedded. Bed/Lam Thickness min 0.3 cm, max 3.0 cm, mode 1.0 cm. Composition dolostone w/ 0.2 mm xtal size, recrystallized, minor breccia 'lens' about 4 m long, laterally traceable into unbrecciated unit. Breccia occurs on both sides of a fault (PEj37/38) and consists of 60% clasts and 40% matrix/porosity. Clast size min 1.5 cm, max 16 cm, mode 10 cm. Sedimentary Structures faintly lam, high-amplitude stylolites, laterally grades into breccia, planar lams. Ej38 Sample/Slab/Thin Section Description (rep litho sample of lam part of unit taken near top of unit), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; vague planar lam/thin bedding, composition; 1% f xyn dolospar after gypsum xtals to 0.5 mm long, 94% f xyn dolomite, 5% porosity. CL; a uniform dull red luminescence. Rock Name: f xyn dolostone.
BASE OF UNIT 63.65 TOP OF UNIT 64.15 THICKNESS 0.50

UNIT Ej39. Weathering Character prom. Colour WS-m brownish grey w/ yellowish green mottles. FS-m brownish grey. Basal Contact convex-up structures. Bedding Character fractured but is massive at base of unit, locally brecciated. Bed Thickness basal 1.8 m is massive. For the overlying 0.8 m-min 1.0 cm, max 15.0 cm, mode 2-3 cm. Composition ls w/ pore-filling bitumen, modal xtal size 0.2 to 0.3 mm, 1-2% vugs. Local breccia, 70% clasts, 30% porosity, some clasts juxtaposed, therefore not moved far, possess very good porosity, some clast moulds. Clast Description-min 3 cm, max 50 cm, mode 10 cm, many clasts are ang and appear to be rotated wrt bedding. Fossils one orthocone, 4-5% in place stromatoporoids, tr solitary corals (some in place, some overturned), Sedimentary Structures high-ampitude stylolites, convex-up structures more dramatic in breccia. Misc bitumenous odour, top part of unit contains carb lams and is more fissile. Ej39 was traced the full length of the outcrop in

order to define brecciated and non-brecciated parts. At 2,338 m-2,342 m-fractured or crackle breccia. 2,342 m-2,345 m-lower metre is brecciated, modal clast size is 5 cm, upper part still bedded, 2,345 m to 2,359 m is fractured but bedded, 2,359 m to 2,365 m-covered interval, 2,365 m to 2,421 m-bedded, some convex-up structures, 2,397 m-slickensides perpendicular to valley, 2,400 m-vertical slickensides/high-amplitude stylolites, 2,402 m-fault in vicinity-vertical carbonate veins, 2,407 m-breccia in pod, 2,421 m-2,448 m non-brecciated part of unit. E39 Sample/Slab Description (solitary corals throughout unit), fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; low-amplitude stylolites, dolomitic mottles, composition; 3% solitary corals (12 mm diameter), tr ostracods. 77% microspar, 5% spar along fractures, 2% white silica partly replaces solitary coral and brach? valves. 10% f xyn dolomite (50μm mode) is concentrated along stylolites and in dolomitic mottles. 5% interxyn porosity. Rock Name: mottled dolomitic microsparite. Ej39a Sample Description (brachs taken 1 m abu) contains brach frags, one plicated rhynchonellid brach 1 cm wide and one solitary coral frag. E39b Sample/Slab Description (litho sample w/ mottles), fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; low-amplitude stylolites, composition; 79% microspar, 5% spar, 1% bitumen, 10% f xyn dolomite, dispersed and also concentrated in mottles, 5% sample porosity between xtals/gns and along stylolites. Rock Name: mottled dolomitic microsparite.
BASE OF UNIT 64.15 TOP OF UNIT 66.75 THICKNESS 2.60

UNIT Ej40. Weathering Character prom. Colour WS and FS variable buff (coated clasts) and dk grey. Basal Contact abrupt planar on a large scale, irregular on a small scale. Bedding Character irregular. Bed Thickness massive. Composition dolostone, xtal size 0.2 mm, 10-15% vugs appear to be formed by enlargement of fractures. 'Lens' of coated clasts (40%) are from 5-10 cm in size. Sedimentary Structures 'lens' of coated clasts at top of unit, Misc Outcrop Ej is on the west limb of a north-trending non-plunging anticline. Bitumenous odour, unit fractured. Ej40 Sample/Slab/Thin Section Description (rep litho sample w/ coated clasts taken near top of unit), fresh surface colour; mottled wk m olive-brown (10YR 5/2) and wk xlt yellowish orange (10YR 8/2), sedimentary structures; stylolites are mainly low-amplitude but have thick opaque residues, stylolites form the boundaries of many clasts, misc; many clasts are coated, bounded by stylolites and have highly curved laminae, clasts consist of dolomitic pelsparite and have a clotted to 'wispy' texture, extensive minor fractures, composition; 1 articulated ostracod 3 mm in size, abundant calcified dolomite within and between clasts, dolomite is sl concentrated near stylolites in clasts, originally the rock must have been at least 50% dolomite, now it is about 15% dolomite, 10% sample porosity along fractures, stylolites, and between xtals. CL; dull red-luminescent dolomite, 5% bright orange-luminescent spar occurs between clasts and fills subvertical fractures. Rock Name: coated clast (sl dolomitic pelsparite) breccia.
BASE OF UNIT 66.75 TOP OF UNIT 67.75 THICKNESS 1.00

UNIT E41. Rec covered interval.
BASE OF UNIT 67.75 TOP OF UNIT 75.50 THICKNESS 7.75

UNIT Ek42. Weathering Character semi-prom. Colour WS and FS-variable, breccia, buff and m brownish grey clasts, white carbonate 'matrix', subequal amounts of buff and grey clasts. Basal Contact covered. Composition breccia, buff dolostone 'clasts' are larger than the m brownish grey dolomitic ls 'clasts'. 1-2% bitumenous lams (or pore-filling?), white sparry veins. Buff clasts are elongate or subequant and ang, min 1 cm (40%), max 30 cm, mode 10 cm. M brownish grey clasts (min 2 mm, max 10 cm, mode 2-3 cm). 15% interclast porosity, 15% c xyn spar (to 1 cm). Fossils 3-4% ossicles, approx 1% solitary corals to 3.5 cm in diameter, either in place or on their sides. Less than 1% colonial corals to 10 cm in size, favositid(?) coral, *Catenipora*, tr plicated brachs <1 cm in size, tr bryozoans. Misc bitumenous odour, fractured outcrop. E42 Sample/Slab Description (solitary corals taken 1 m abu), fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; low-amplitude stylolites, composition; 1% fossils consist of one 17 mm diameter solitary coral, tr brach frags and ossicles, 58% peloids, 10% microspar, 10% f xyn spar between peloids, 1%

very c xyn spar fills fractures, tr bitumen, tr white spherulitic silica, 15% f xyn dolomite is concentrated in mottles, 5% porosity. Rock Name: dolomitic/sparry pelmicrosparite. E42a Sample Description (brach taken 1 m abu), one 5 mm diameter solitary coral. E42b Sample/Slab Description (*Catenipora* taken 2 m abu), fresh surface colour; wk vlt yellowish orange (10YR 7/2), tr malachite stain, composition; 1 favositid coral colony 15 cm in size, skeleton partly replaced by spherulitic silica, corallites lined w/ clear polyxyn quartz and filled w/ m xyn spar, total 35% silica. Rock Name: silicified sparry favositid coral. E42c Sample/Slab Description (favositid coral taken 1 m abu), fresh surface colour; wk lt olive-brown (10YR 6/2). composition; 20% fossils consist of 5% ostracods, tr ossicles, one in situ *Catenipora* (5%) colony 40 mm high and 10% undifferentiated fossil frags. 13% microspar, 2% f xyn spar lines fractures, 60% f-m xyn evenly dispersed dolomite, 5% porosity along fractures and between xtals/clasts. Rock Name: microsparitic fossiliferous f-m xyn dolostone. Ek42d Sample/Slab/Thin Section Description (rep litho sample-spar to 1 cm in size), fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; low-amplitude stylolites, subvertical microfractures, composition; 1% solitary coral is partly replaced by chert, 5% ossicles, 3% ostracods, 2% brachs, partly replaced by chert, 15% ostracod frags, 34% peloids composed of microspar, 20% spar (to vc xyn) fills fractures, 1% spherulitic chalcedony. 15% dolomite after gypsum(?), in part calcified, 5% porosity along stylolites and fractures. CL; bright orange-luminescent subvertical spar veinlets and zoned clear spar fills vugs. FLUOR; spar filling corallites is zoned. Rock Name: dolomitic/sparry/ostracodal biopelmicrosparite.
BASE OF UNIT 75.50 TOP OF UNIT 79.70 THICKNESS 4.20

UNIT Ek43. *Very poor outcrop, is lam where exposed.*
BASE OF UNIT 79.70 TOP OF UNIT 79.90 THICKNESS 0.20

UNIT E44. Rec covered interval approx 2,400 m west of Lancaster Sound.
BASE OF UNIT 79.90 TOP OF UNIT 88.15 THICKNESS 8.25

UNIT EL45. Weathering Character prom. Colour WS and FS-variable (breccia), buff and m brownish grey 'clasts', white spar 'matrix', subequal amounts of buff and grey clasts. Large spar is yellowish. Basal Contact covered. Composition 70% 'clasts', 15% 'matrix', 15% porosity. Breccia is chaotic, not graded, clasts randomly oriented, both small and large ang to sbang 'clasts'. Clast size-min 2 mm, max 1 m, mode 6 cm. 'Matrix'-1 cm sized yellowish spar xtals. M brownish grey clasts are dolomitic ls to ls. Buff clasts are dolomitic ls, large ones are themselves brecciated. Minor bluish carb veins in outcrop. Sedimentary Structures high-amplitude stylolites. Fossils 2% favositid corals (max 7 cm), some have bitumen filling the central corallites, most are in place in clasts but a few are overturned, ostracods-concentrated in parts of outcrop, are generally <5 mm in size, concentration is 1 m abu where they comprise 10% of unit. They are filled w/ white xyn carbonate, tr small 0.4 cm wide by 1.0 cm long orthoconic nautiloids. Misc slickensides/slickolites w/ lineations trend 10°, plunge 66°N, trend 90°, plunge 65°E. Bitumenous odour. EL45 Sample/Slab/Thin Section Description (rep litho sample of breccia taken 1 m abu), fresh surface colour; m olive-brown (10YR 5/3), sedimentary structures; dolomitic mottles, composition; 41% fossils, 1% orthocones, 35% articulated ostracods to 7 mm in size (most are 2 mm), many have alternating spar and dolomite linings, one articulated ostracod is lined w/ dolomite, then spar and is filled w/ polyxyn quartz, 5% favositid corals (25 mm in size), tr ossicles, 13% microspar, 30% spar fills ostracods, 1% bitumen, 40% f xyn dolomite (xtals are lath-shaped due to differential xtal corrosion) is concentrated in ostracods, also lath-shaped dolomite in irregularly-shaped mottles some of which surround calc areas, very extensive calcification of dolomite, 5% sample porosity along stylolites. CL; moderate orange-luminescent spar lines the inside of articulated ostracods, dolomite luminesces a dull orange-red and limpid dolomite lining ostracods is non-luminescent. FLUOR; a complex calcite-dolomite cement is revealed by fluorescence. Rock Name: mottled fossiliferous microsparitic f xyn dolostone crackle breccia. E45a Sample/Slab Description (ostracod sample taken 1 m abu), fresh surface colour; wk m olive-brown (10YR 5/2), composition; 45% fossils consist of 5% favositid corals to 55

mm in size, corallites filled w/ spar, 35% articulated ostracods to 4.5 mm filled w/ spar, 5% disarticulated ostracod frags, 40% spar fills ostracods, corallites of favositid corals, and occurs between fossils, 50% f xyn dolomite (mode 40μm) between fossil frags, dolomite also lines spar-filled ostracods, in some cases there are alternating spar and dolomite linings filling ostracods, 5% interxyn porosity. Rock Name: ostracodal f xyn dolostone.
BASE OF UNIT 88.15 TOP OF UNIT 94.15 THICKNESS 6.00

UNIT E46. Rec covered interval.
BASE OF UNIT 94.15 TOP OF UNIT 95.65 THICKNESS 1.50

UNIT EL47. Weathering Character prom. Colour WS & FS-mottled dk and lt brownish grey. Basal Contact covered. Bedding Character mottles are elongate subparallel to bedding. Bed Thickness very thick bedded, fractured. Composition dolomitic ls, xtal size <0.1 mm, 2 cm modal mottle size. Sedimentary Structures mottles approx 2 cm in size. Fossils solitary corals both upright and overturned, max size 2.5 cm, mode 1.0 cm. 0.5% colonial corals. *Catenipora*-small, generally only one chain, favositid corals to 10 cm across, 1-2% ossicles throughout the unit. Tr bryozoans and brachs, tr fairly large gastropods w/ shells to 1.5 mm thick, restricted to a zone 6 m abu, 0.5% stromatoporoids(?) 2 m abu, tr orthocones and small orthocone frags. Misc bitumenous odour, well indurated, fractured pale yellowish green (malachite?) stain on surface. A 2 m thick layer of 'concretions' may be altered stromatoporoids. EL47 Sample/Slab/Thin Section Description (rep litho sample taken 2 m abu), fresh surface colour; irregularly mottled wk m olive-brown (10YR 5/2) to wk dk olive-brown (10YR 4/2), sedimentary structures; irregular dolomitic mottles, composition; 46% fossils-30% articulated ostracods to 4 mm in size (mode 2 mm) have alternating dolospar and spar linings as well as outer coatings, 10% ostracod frags, 2% solitary corals, 1% bryozoans, tr high-spired (to 3 mm high) gastropods, 2% ossicles (one is 10 mm in diameter and has a 5-point star-shaped axial canal), tr *Catenipora*, one 5 mm long algal frag consists of single box-shaped 'cells' joined together, tr triaxon(?) sponge spicules, tr brach frags. 10% microspar, 5% spar especially between peloids, misc; tr spherulitic chalcedony, 34% f-m xyn dolomite concentrated in irregularly shaped mottles, most of the dolomite xtals are lath-shaped due to very extensive selective calcification and leaching of rhombs, 5% porosity along fractures. CL; very dull red luminescent dolomite, 2% bright orange luminescent calcite overgrowths, otherwise calcite is non-luminescent. FLUOR; spar cement is fluorescent. Rock Name: mottled dolomitic ostracodal biomicrosparite. E47a Sample/Slab Description (large solitary coral taken 3 m abu), fresh surface colour; vwk dk olive-brown (10YR 4/1), sedimentary structures; irregularly-shaped dolomitic mottles, composition; 18% fossils, consist of 5% solitary corals (one w/ 29 mm diameter corallum), 5% ossicles and tr echinoderm stem (2 mm diameter), one ossicle has a 5-point star-shaped axial canal, one favositid coral frag (4%) to 15 mm in size, 4% ostracods to 2.5 mm in size, one 10 mm long tapering echinoderm arm(?). 32% microspar, 5% spar, 30% f xyn dolomite is concentrated in dolomitic mottles, 15% porosity between xtals/clasts. Rock Name: mottled dolomitic biomicrosparite. E47b Sample/Slab Description fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; low-amplitude stylolites, composition; 10% fossils (dolomitic), 3% cup corals to 3.5 mm diameter, 5% ossicles, tr echinoderm stem frags, 1% tabular stromatoporoid to 25 mm in size, 1% ostracods to 2 mm in size, 30% microspar, 50% f-m xyn dolomite concentrated in irregular mottles and along stylolites, 10% porosity along stylolites. Rock Name: mottled fossiliferous microsparitic f-m xyn dolostone. Sample E47 taken for conodonts.
BASE OF UNIT 95.65 TOP OF UNIT 102.65 THICKNESS 7.00

UNIT EL48. Weathering Character prom. Colour WS & FS-m brownish grey. Basal Contact trans over 5 cm, planar. Bedding Character planar bedded. Bed/Lam Thickness-variable 2 to 10 mm, irregular pinching and swelling of lams. Composition ls w/ 0.3 mm xtal size. Fossils 3-4% poorly preserved brachs. Misc fractured, bitumenous odour.
BASE OF UNIT 102.65 TOP OF UNIT 103.15 THICKNESS 0.50

UNIT EL49. Weathering Character prom. Colour WS & FS-buff from a distance, mottled at

close range, subequally dk and lt brownish grey. Basal Contact planar trans over 5 cm. Bedding Character mottles are elongate parallel to bedding. Bed/Lam Thickness massive. Composition dolomitic ls, xtal size <0.1 mm, 2 cm modal mottle size. Sedimentary Structures mottles. Fossils 5% ostracods. E49 Sample/Slab Description (litho sample w/ ostracods taken from top of unit), fresh surface colour; mottled dk olive-brown (10YR 4/3) and wk lt olive-brown (10YR 6/2), 16% fossils, consisting of 15% ostracods to 17 mm wide and 1% conispiral gastropods to 13 mm high, tr ossicles, orthocone frags, and echinoderm spines. 30% microspar, 5% spar fills ostracods, 44% f xyn dolomite (50μm) is mainly concentrated in dolomitic mottles, 5% porosity. Rock Name: mottled/fossiliferous/microsparitic f xyn dolostone.
BASE OF UNIT 103.15 TOP OF UNIT 104.65 THICKNESS 0.50

UNIT EL50. Weathering Character prom. Colour WS and FS-m brownish grey. Basal Contact planar. Bedding Character planar. Bed/Lam Thickness variable 2 to 10 mm, irregular 'pinch and swell'. Composition ls w/ 0.3 mm xtal size. Fossils tr solitary corals to 4 cm long, one orthoconic nautiloid.
BASE OF UNIT 104.65 TOP OF UNIT 104.95 THICKNESS 0.30

UNIT EL51. Weathering Character prom. Colour WS and FS-buff from a distance, mottled up close, subequally dk and lt brownish grey. Basal Contact planar trans over 5 cm. Bedding Character mottles are elongate subparallel to bedding. Composition dolomitic ls (xtal size <0.1 mm), 2 cm modal mottle size. Fossils small bulbous stromatoporoid.
BASE OF UNIT 104.95 TOP OF UNIT 106.35 THICKNESS 1.40

UNIT EL52. Weathering Character prom. Colour WS and FS-m brownish grey. Basal Contact abrupt. Composition ls w/ 0.3 mm gn/xtal size. Sedimentary Structures planar bedding. Fossils poorly preserved brachs.
BASE OF UNIT 106.35 TOP OF UNIT 108.20 THICKNESS 1.85

UNIT EL53. Mottled as for EL47. Basal Contact abrupt planar. Fossils high-spired gastropods in upper 20 cm of unit, questionable presence of ostracods. Misc becomes more fissile at top, unit is structurally deformed. EL53 Sample/Slab/Thin Section Description (sample containing gastropods taken 4.7 m abu), fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; wispy dolomitic mottles, low-amplitude stylolites, composition; 33% intraclasts to 4 mm in size are composed of peloids. 22% fossils, consist of 5% gastropods, 10% articulated ostracods, 5% ostracod frags, 1% solitary corals, tr ossicles, 1% echinoderm spines, 10% peloids (may be fecal pellets), 10% f xyn spar between peloids, 20% f xyn dolomite (50μm mode), extensive calcification of dolomite, 5% porosity along fractures and between xtals/gns, especially in dolomitic mottles. CL; non-luminescent except for 1% bright orange-luminescent clear spar veinlets filling fractures. Rock Name: fossiliferous dolomitic intrasparite.
BASE OF UNIT 108.20 TOP OF UNIT 113.10 THICKNESS 4.90

UNIT EL54. Weathering Character semi-prom. Colour WS and FS-m brownish grey. Basal Contact planar trans over 15 cm. Bedding Character lam to thinly bedded, lams turn up over lens of digitate stromatolites, fissile flaggy parting. Bed/Lam Thickness-min 3 mm, max 30 cm, mode 15 mm, interlam 3 mm thick dk and lt lams. Composition fissile ls (argil and/or carb). Sedimentary Structures laterally continuous parallel lams, small 'lens' of digitate stromatolites (20 cm wide and 10 cm thick) situated 1.5 m abu. Misc bitumenous odour. EL54 Sample/Slab/Thin Section Description (rep litho sample taken 2.0 m abu), fresh surface colour; wk vdk olive-brown (10YR 3/2), low-amplitude stylolites, low-angle cross-lam, minor subvertical spar-filled fractures, composition; 54% peloids (composed of microspar), range in size from 25-100μm, mode is 50μm. 15% microspar, 10% spar occurs between peloids and fills veins, 1% bitumen along fractures, dolomite is close to stylolites or fractures, 15% f-m xyn dolomite, calcite pseudomorphs after dolomite are com, 5% porosity along stylolites, fractures, and between xtals. CL; 1% bright orange-luminescent composite spar after gypsum

xtal laths and bright orange-luminescent subvertical fracture-filling veinlets. Rock Name: dolomitic sparry pelmicrosparite. E54a Sample/Slab Description (stromatolites from a 'lens' 1.5 m abu), fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; convex-up lam (digitate stromatolites), digits to 18 mm wide and 35 mm high, are wider at the top than at the base, misc; minor fractures, 84% microspar contains approx 2% clay-sized brown insoluble mat'l, 5% vug-filling spar, 1% bitumen fills fractures and dolomitic lams, 5% f-m xyn dolomite is concentrated mainly along certain of the convex-up lams within the stromatolitic 'digits', 5% sample porosity along fractures and between xtal/gns. Rock Name: digitate stromatolitic sl dolomitic/ sl sparry microsparite.
BASE OF UNIT 113.10 TOP OF UNIT 115.25 THICKNESS 2.15

UNIT EL55. Weathering Character semi-prom, 10 m-sized outcrop. Colour WS & FS-m brownish grey. Basal Contact abrupt. Bedding Character mottled. Bed/Lam Thickness irregular bedding plane parting, min 1 cm, max 9 cm, mode 2 cm. Composition ls w/ 0.1 mm xtal size, 60% dk mottles, 40% lt mottles, 10% fossils. Sedimentary Structures mottles. Fossils 10% well-preserved but disarticulated convex-up brach valves throughout unit. Gastropods 0.4 m abu and tr ossicles. Misc bitumenous odour. Samples EL55-gastropods taken 0.40 m abu. E55a Sample/Slab Description (of brachs taken 25 cm abu), fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; irregular dolomitic mottles, low-amplitude stylolites, misc; minor subvertical spar-filled fractures, composition; 22% fossils, consist of 20% brachs and brach frags, several species of moderately well-preserved brachs to 25 mm wide, some strophic, some non-strophic and costate, one high-spired gastropod (30 mm high), 1% ossicles, 40% microspar, 3% spar fills fractures, 30% f-m xyn dolomite is concentrated along stylolites and in mottles, 5% porosity along stylolites/fractures and between xtals/gns. Rock Name: mottled/dolomitic/brachiopodal biomicrosparite.
BASE OF UNIT 115.25 TOP OF UNIT 115.80 THICKNESS 0.55

UNIT EL56. Weathering Character semi-prom. Colour WS and FS-m brownish-grey. Basal Contact abrupt, planar irregular on a small scale. Bedding Character lam to thin-bedded, upper 40 cm contains intraclasts. Composition 80% intraclasts, 20% 'matrix' and porosity. Intraclasts are elongate and rd, modal clast size and shape is 0.5 cm thick and 8.0 cm long. EL56 Sample/Slab Description (taken 0.70 m abu), fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; intraclasts, low-amplitude stylolites, misc; extensively fractured, composition; 70% rd intraclasts to 70 by 5 mm (composed of pelmicrospar), 1% fossils consist of tr gastropod frags, 1% brach frags, and one articulated ostracod 0.6 mm in size. 3% microspar, 10% spar between intraclasts (to c xyn), 1% bitumen between xtals/clasts and lining vugs, tr quartz replaces carbonate, 10% dolomite between intraclasts, dolomite w/ calcite inclusions is com (calcified dolomite?), 5% porosity in vugs between intraclasts and along fractures. CL; non-luminescent except for bright orange-luminescent zoned spar between intraclasts. Rock Name: dolomitic intrasparrudite.
BASE OF UNIT 115.80 TOP OF UNIT 116.80 THICKNESS 1.00

UNIT EL57. Weathering Character semi-prom. Colour WS and FS-m brownish grey. Basal Contact abrupt planar, irregular on a small scale. Bedding Character lt coloured wispy mottles. Composition ls, irregular, white dolomitic 'concretions' occur from 0.5 m abu to the top of the unit. Center of 'concretions' (which are probably altered dolomitic mottles) are chalky white, microxyn and poorly indurated w/ good porosity. Fossils tr favositid corals at top of concretionary zone. Misc bitumenous odour. EL57 Sample/Slab/Thin Section Description (rep litho sample w/ concretion and colonial coral), fresh surface colour; wk dk olive-brown (10YR 4/2), composition; 26% fossils consist of tr branching algae(?), 5% stromatoporoids, 20% favositid corals (to 60 mm in size), 1% *Catenipora* frags to 27 mm long, one phaceloid coral, tr triaxon(?) sponge spicules, tr ossicles, tr brach frags. 5% micrite, 34% microspar, 5% spar, 25% f-m xyn dolomite rhombs dispersed around fossil frags. Dolomite com has calcite inclusions. 5% interxyn porosity. CL; tr bright orange-luminescent subvertical fracture-filling veinlets. Dolomite luminesces a dull orange-red and calcite is non-luminescent. FLUOR; corallites are lined by fluorescent spar and filled by

non-fluorescent spar. Rock Name: dolomitic/sl sparry coralline biomicrosparite.
BASE OF UNIT 116.80 TOP OF UNIT 118.05 THICKNESS 1.25

UNIT EL58. Rec covered interval.
BASE OF UNIT 118.05 TOP OF UNIT 118.25 THICKNESS 0.20

UNIT EL59. Weathering Character semi-prom. Colour WS and FS-m brownish-grey. Basal Contact covered. Composition ls. Sedimentary Structures minor horizontally oriented mottles 1 cm wide at top of unit. Fossils tr gastropods 1.8 m abu. E59 Sample/Slab/Thin Section Description (gastropods 1.8 m abu), fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; planar lam, low-amplitude stylolites, misc; numerous minor fractures, composition; 22% intraclasts to 2 mm in size, composed of pelmicrospar, 3% m-spired gastropods to 5 mm in diameter, 38% peloids (40μm size mode and composed of microspar), 16% microspar between peloids, 5% spar, 1% interxyn bitumen. 10% f-m xyn dolomite is concentrated along stylolites and fractures, 5% porosity along stylolites, fractures and between xtals/gns. CL; non-luminescent except for bright orange-luminescent subvertical spar veinlets and tr blue-luminescent fluorite after dolomite. Rock Name: gastropod-bearing dolomitic/ intraclastic pelmicrosparite.
BASE OF UNIT 118.25 TOP OF UNIT 120.55 THICKNESS 2.30

UNIT EL60. Rec covered interval.
BASE OF UNIT 120.55 TOP OF UNIT 123.40 THICKNESS 2.85

UNIT EL61. Weathering Character prom, good 15 m wide exposure. Colour WS-wispy to mottled m brownish grey. FS-less yellowish. Basal Contact covered. Bedding Character wispy, irregularly bedded to mottled. Bed Parting Thickness bimodal, 20 and 2 cm. Composition microxyn ls. Fossils upper 20 cm of unit contains 25% leperditid ostracods, 1% gastropods and brachs and one orthoconic nautiloid. Misc bitumenous odour, limonitic stain accentuates bedding. Subvertical joint surfaces strike 145°, dip 87°E. Second joint surface strikes 55°, dips 84°SE. EL61 Sample/Slab/Thin Section Description fresh surface colour; mottled lt olive-brown (10YR 6/3) and wk dk olive-brown (10YR 4/2), sedimentary structures; low-amplitude stylolites, composition; 30% fossils, consist of 19% smooth articulated ostracods (to 16 mm wide) and 10% ostracod frags, ostracods have a two-layered valve in which calcite xtals are elongate at right angles to valve boundaries, 1% m-spired gastropods, tr plicated brachs, 1 smooth brach is 1 cm wide w/ pronounced fold and sulcus, tr echinoderm stems, 25% peloids com fill articulated ostracods and gastropods and occur between fossils. 5% micrite, 10% microspar, 10% spar partly fills ostracods (geopetal structure where spar overlies peloids in ostracods and gastropods), 15% f xyn dolomite rhombs dispersed between fossil frags, dolomite is also concentrated in irregularly-shaped mottles, calcite is com pseudomorphic after dolomite, 5% sample porosity distributed along stylolites and between xtals. CL; tr blue-luminescent fluorite after dolomite, valves are dull orange-luminescent and dolomite after acicular gypsum(?) xtals is bright orange-luminescent. There are also minor bright orange-luminescent subvertical dolomite veinlets. FLUOR; vugs and fossil casts of fluorescent spar. Rock Name: mottled dolomitic sparry ostracodal biopelmicrosparite.
BASE OF UNIT 123.40 TOP OF UNIT 124.55 THICKNESS 1.15

UNIT EL62. Weathering Character semi-prom. Colour WS & FS m brownish grey. Basal Contact abrupt planar. Bedding Character lam to thin bedded. Composition ls. Sedimentary Structures laterally continuous parallel lams. Fossils tr ostracods.
BASE OF UNIT 124.55 TOP OF UNIT 125.00 THICKNESS 0.45

UNIT EL63. Weathering Character prom. Colour WS & FS-buff. Basal Contact abrupt planar. Bedding Character massive. Bed Thickness 35 cm. Composition ls, a few intraclasts present, 0.1 mm xtal size. Sedimentary Structures vague lams, a few intraclasts. Misc bitumenous odour. EL63 Sample/Slab/Thin Section Description (rep litho sample taken at base of unit), fresh surface colour; vwk dk olive-brown (10YR 4/1), misc; minor fractures,

composition; 49% microspar, 1% spar lines fractures, 5% bitumen between xtals and lining fractures, 40% f xyn dolomite contains microspar, 5% sample porosity along fractures and between xtals. CL; very dull red-luminescent calcite w/ the exception of tr bright orange-luminescent subvertical spar-filled veinlets. Bright orange-luminescent composite spar also occurs after tr gypsum xtals. There is also tr blue-luminescent fluorite after dolomite xtals. FLUOR; 2% uniformly scattered yellow fluorescent specks. Rock Name: sl bitumenous/dolomitic microsparite.
BASE OF UNIT 125.00 TOP OF UNIT 125.35 THICKNESS 0.35

UNIT EL64. Weathering Character semi-prom. Colour WS & FS-m brownish-grey. Basal Contact abrupt planar. Bedding Character lam to thin bedded. Bed/Lam Thickness 1 cm parting interlam w/ 1 mm thick partings. Sedimentary Structures wispy mottles. Composition ls.
BASE OF UNIT 125.35 TOP OF UNIT 126.85 THICKNESS 1.50

UNIT EL64a. Weathering Character semi-prom. Basal Contact trans planar over 5-10 cm. Bedding Character mottled, upper 20 cm trans into irregularly lam unit. Sedimentary Structures mottles. Composition ls.
BASE OF UNIT 126.85 TOP OF UNIT 127.75 THICKNESS 0.90

UNIT EL65. Weathering Character semi-prom. Colour WS & FS m brownish grey. Basal Contact planar, trans over 20 cm. Bedding Character lam to thin bedded. Bed/Lam Thickness min 3 mm, max 30 mm, mode 15 mm, interlam 3 mm thick dk and lt lams. Composition ls. Sedimentary Structures planar lams. Fossils none.
BASE OF UNIT 127.75 TOP OF UNIT 128.30 THICKNESS 0.55

UNIT EL66. Weathering Character prom. Basal Contact trans over 5 cm. Bedding Character wispy to mottled. Bed Parting Thickness bimodal at 20 and 2 cm. Composition microxyn ls. Fossils one orthoconic nautiloid 0.5 m abu.
BASE OF UNIT 128.30 TOP OF UNIT 129.80 THICKNESS 1.50

UNIT EL67. Rec covered interval.
BASE OF UNIT 129.80 TOP OF UNIT 130.55 THICKNESS 0.75

UNIT E68. Weathering Character semi-rec. Colour WS & FS-buff. Basal Contact covered. Bedding Character vague planar bedding. Composition ls, <0.1 mm xtal size. Sedimentary Structures vague planar bedding. Fossils none. Misc bitumenous odour. EL68 Sample/Slab/Thin Section Description fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; low-amplitude stylolites, misc; minor fractures, composition; 45% peloids (composed of microspar), 30% spar, 10% xtal moulds of gypsum to 5 mm long, some w/ swallowtail terminations, 15% f xyn dolomite (size mode 50μm) concentrated near low-amplitude stylolites, calcite is com pseudomorphous after dolomite. CL; non-luminescent except for bright orange-luminescent spar after gypsum xtals. Rock Name: gypsum xtal mouldic dolomitic pelsparite.
BASE OF UNIT 130.55 TOP OF UNIT 131.15 THICKNESS 0.60

UNIT EL69. Rec covered interval.
BASE OF UNIT 131.15 TOP OF UNIT 133.15 THICKNESS 2.00

UNIT EL70. Weathering Character semi-rec. Colour WS & FS-buff. Basal Contact covered. Bedding Character vague planar bedding. Composition ls w/ <0.1 mm xtal size. Fossils none. Misc bitumenous odour. Sample EL70-conodont sample taken throughout unit.
BASE OF UNIT 133.15 TOP OF UNIT 137.25 THICKNESS 6.10

UNIT EL71. Weathering Character basal 0.50 to 1.0 m is prom, remainder semi-rec. Colour WS & FS-m brownish grey, black carb mat'l on bedding plane parting surfaces. Basal Contact

planar, trans over 5 cm. Bedding Character vague planar lams. Bed/Lam Thickness bed parting thickness mode 4.0 cm. Composition basal 0.5 to 1.0 m is calc dolostone that becomes more calc upward, <0.1 mm xtal size, locally crackle breccia. Sedimentary Structures planar lams, high-amplitude stylolites. Fossils tr ossicles. Misc bitumenous odour, fractured into small clasts, carb lams on fractures as well as bedding plane partings, <1% carb mat'l. EL71 Sample/Slab/Thin Section Description (litho sample taken at base of unit), fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; stylolites w/ amplitudes to 2 mm are accentuated by 75μm thick residue. One stylolite is traceable laterally into calcified dolomite and further into an area where calcified dolomite has been dissolved to create very high interxyn porosity. There is also a high concentration of low-amplitude stylolites, composition; breccia w/ 60% clasts larger than 2 mm (max 30 mm), 10 mm modal size, clasts composed of microspar and minor micrite, only a few clasts are rotated, breccia may be classified as a crackle or stylo-breccia, some clasts are internally deformed, 'matrix' beween clasts has a higher content of brown insoluble residue. Very fine xyn dolomite, one large dolomite xtal has been calcified. Sample porosity (3%) is distributed along fractures and stylolites. CL; non-luminescent. Rock Name: m calcirudite-sized breccia; microsparite 'clast' and 'matrix' crackle (stylo-) breccia.
BASE OF UNIT 137.25 TOP OF UNIT 141.75 THICKNESS 4.50

UNIT EL72. Weathering Character semi-rec. Colour WS & FS-m brownish grey. Basal Contact covered. Bedding Character irregular, poor exposure, approx 3 m wide & 10 m or more high. Bed/Lam Thickness min 10 mm, max 30 mm, mode 20 mm. Composition fossiliferous carb calc dolostone w/ a 0.1-0.2 mm xtal size. Sedimentary Structures irregular lams. Fossils 10% well preserved gastropods, some high-spired, typically 8 mm wide near aperture, up to 30 mm long, tr ossicles. Misc bitumenous odour. EL72 Sample/Slab Description (litho sample w/ gastropods taken 0.5 m abu), fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; low-amplitude stylolites, dolomitic mottles, composition; 10% ostracods to 5 mm in size, 3% small gastropods. 52% microspar, 10% spar. 20% f xyn dolomite (50μm mode) is concentrated in dolomitic mottles. 5% interxyn sample porosity. Rock Name: mottled dolomitic/ostracodal biomicrosparite. E72a Sample/Slab Description (high-spired gastropods taken 0.5 m abu), fresh surface colour; wk m olive-brown (10YR 5/2), composition; 20% high-spired gastropods to 30 mm long, 2% articulated ostracods to 3 mm long. 50% peloids composed of microspar, 18% microspar between peloids, 5% spar fills some gastropods, 5% interxyn porosity. Rock Name: gastropodal pelmicrosparite.
BASE OF UNIT 141.75 TOP OF UNIT 142.50 THICKNESS 0.75

UNIT EL73. Weathering Character semi-rec, semi-covered, similar to unit EL72 except that it weathers into flaggy scree. Colour WS & FS-m brownish grey. Basal Contact covered. Bedding Character irregular. Bed/Lam Thickness min 10 mm, max 30 mm, mode 20 mm. Composition calc dolostone w/ 0.1-0.2 mm xtal size, flaggy weathering suggests an increased carb or argil content. Sedimentary Structures irregular lams. Fossils gastropods & ossicles as for previous unit. EL73 Sample/Slab Description (rep litho sample taken 3.0 m abu), fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; planar to sl irregular lam w/ minor contorted lams, low-amplitude stylolites, composition; 80% microspar, 5% spar, 10% f xyn dolomite near stylolites, 5% interxyn sample porosity. Rock Name: dolomitic microsparite.
BASE OF UNIT 142.50 TOP OF UNIT 146.00 THICKNESS 3.50

UNIT EL74. Weathering Character prom, major ledge-former, outcrop is over 100 m wide. Colour WS & FS-m brownish grey. Basal Contact covered. Bedding Character vague planar to sl irregular. Bed/Lam Thickness vague, mode 1.0 m. Composition calc dolostone w/ carb flakes and <0.1 mm xtal size. Sedimentary Structures vague planar lams, high-amplitude stylolites result in a subvertical lineation. Misc weak bitumenous odour, fractures com. EL74 Sample/Slab/Thin Section Description (rep litho sample taken 1.0 m abu), fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; high-amplitude (to 7 mm)

stylolites some of which terminate at spar-filled subvertical fractures, stylolites are accentuated by brown opaque residue to 25μm thick, misc; extensively fractured, many of the subvertical fractures terminate at stylolites, therefore fracturing is related to the dissolution of ls. There is also a slight apparent offset of stylolites across fractures and microfaults, composition; 1 articulated ostracod 0.13 mm in size, 5% micrite, 88% microspar, 2% f xyn spar, 5% microspar and f xyn spar pseudomorphous after gypsum xtals to 2 mm long, one of the pseudomorphed laths is offset by a stylolite. 1% vf-f xyn dolomite is dispersed and concentrated along stylolites, 5% sample porosity along stylolites and subvertical fractures. CL; non-luminescent except for dull orange-luminescence along fractures. Rock Name: sl sparry/sl micritic microsparite.
BASE OF UNIT 146.00 TOP OF UNIT 150.25 THICKNESS 4.25

UNIT EL75. Weathering Character prom major ledge-former. Colour WS & FS-buff. Basal Contact planar, trans over 20 cm. Bedding Character inversely-graded crackle to rubble breccia. Composition crackle breccia at base grades to rubble breccia 6 m abu, 80% 'clasts', 0-10% 'matrix', 10-20% porosity, 1-2% bitumen between ls clasts of various sizes. Basal 0.5 m has a 1-2 cm clast size mode. An unbrecciated zone occurs from 0.5 to 2.0 m abu and is overlain by breccia (clast size max 1.0 m, min 1 cm, mode 20 cm). Sedimentary Structures high-amplitude stylolites, hummocky structures to 1 m in size at base of breccia, convex-up structures (70 cm wide, 20 cm high) in breccia 2 m abu. Fossils ossicles and solitary coral (recrystallized?) 6.75 m abu. Misc bitumenous odour, 'boudinage' on other side of valley. E75 Sample/Slab/Thin Section Description fresh surface colour; wk dk olive-brown (10YR 4/2) and wk vlt yellowish orange (10YR 7/2), sedimentary structures; dolomitic mottles, low-amplitude stylolites, composition; 50% fossils consist of 5% stick bryozoan frags, 5% ostracods to 1.1 mm, 3% ostracod frags, 5% stromatoporoid frags, 30% ossicles w/ spar overgrowths, 5% brachs (partly filled w/ peloids), 10% peloids between allochems are composed of microspar. 20% spar. 10% f-m xyn dolomite mainly between fossil frags w/ minor replacement of fossils, excellent examples of calcified dolomite. 20% sample porosity along stylolites and fractures, interxyn porosity is high near stylolites, also-high porosity was produced in dolomite rhombs that were calcified followed by leaching. The highest proportion of leached dolomite occurs near stylolites and fractures and is undoubtedly responsible for the crackle brecciation of this unit. CL; fossil frags are non-luminescent but the semi-opaque 'matrix' between them luminesces bright orange. FLUOR; 20% fluorescent isopachous spar cement (scalenohedra at right angles to pore walls). Rock Name: mottled dolomitic biosparite. EL75a Sample/Slab/Thin Section Description (ossicles and solitary corals taken from a large clast 6.75 m abu), fresh surface colour; mottled wk dk olive-brown (10YR 4/2) and wk vlt yellowish-orange (10YR 7/2), sedimentary structures; low-amplitude stylolites, composition; 74% fossils, consist of 50% ossicles to 8 mm in size, some w/ 5 point star-shaped axial canals, 10% undifferentiated shell frags, 2% 20 mm wide favositid coral frag, 10% stick bryozoa (branching forms 2 mm wide and several cm long), 2% articulated brachs to 8 mm long. 6% microspar, 10% spar. 5% dolomite replaces coral walls and is dispersed in the form of f-m xyn rhombs. 5% sample porosity along stylolites. Rock Name: sl dolomitic/sl microsparitic ossicle-rich biosparite.
BASE OF UNIT 150.25 TOP OF UNIT 159.20 THICKNESS 8.95

UNIT EL76. Rec covered interval.
BASE OF UNIT 159.20 TOP OF UNIT 163.65 THICKNESS 4.45

UNIT EL77. Weathering Character prom. Colour WS & FS-buff. Basal Contact covered. Bedding Character breccia. Composition breccia, 60% 'clasts', 30% 'matrix', 10% porosity, buff & more com m brownish grey dolomitic ls clasts. Buff 'matrix' is ls to dolomitic ls and contains most of the bitumen. Clast size min 2 mm, max 30 cm, mode 4-5 cm. Fossils ossicles are a minor proportion of the clasts (one 30 cm-sized clast contains 3% ossicles). Sedimentary Structures high-amplitude stylolites. EL77 Sample/Slab/Thin Section Description fresh surface colour; wk m olive-brown (10YR 5/2) clasts in a lt olive-brown (10YR 6/3) 'matrix', composition; 12% fossils, consist of tr favositid coral and chain coral frags, 4% ossicles, one

18 mm long echinoderm stem, ossicles to 2.5 mm in size, 3% stromatoporoids, 5% ostracods, tr *Catenipora*, tr brach frags, tr chert, 3% dolomite, 10% porosity, 62% microspar 'clasts' (larger than 2 mm), 'matrix' between 'clasts' is 5% microspar and 25% spar. CL; the 'matrix', comprising 60% of the sample, is bright orange-luminescent, zonation in pore-lining spar is quite com. FLUOR; 10% fluorescent spar cement. Rock Name: sparry biomicrosparite crackle breccia.
BASE OF UNIT 163.65 TOP OF UNIT 181.15 THICKNESS 17.50

UNIT EL78. Weathering Character prom 17 m wide outcrop. Colour WS-buff limonitic(?) irregular patches, white 2 mm-sized spar. FS-m brownish grey. Basal Contact planar trans over 15-20 cm. Bedding Character planar irregular. Bed/Lam Thickness min 0.8 cm, max 30 cm, mode 4 cm (same as bedding plane parting), laterally continuous over 1 m. At 1.5 m abu it becomes thinner (1-2 cm). Composition ls w/ 0.1 to 0.4 mm xtal size, 10% fracture porosity and good fracture permeability. Sedimentary Structures high-amplitude stylolites define a subvertical lineation. Fossils poorly preserved high-spired gastropods and shell frags. Misc weak bitumenous odour, highly fractured. EL78 Sample/Slab/Thin Section Description (rep litho sample containing gastropods taken near base of unit), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; low-amplitude stylolites, composition; 5% intraclasts, 10% peloid-filled ostracods and 10% peloid-filled high-spired gastropods to 7 mm high, 50% peloids composed of microspar and micrite, 5% microspar between allochems, 10% spar between peloids and filling ostracods, 2% insoluble brown residue, 3% dolomite, 5% sample porosity along stylolites, fractures and between xtals/gns. FLUOR; 3% fluorescent spar cement. Rock Name: sl dolomitic/microsparitic biopelmicrosparite. Sample E78 taken for conodonts.
BASE OF UNIT 181.15 TOP OF UNIT 184.15 THICKNESS 3.00

UNIT EL79. Rec covered interval.
BASE OF UNIT 184.15 TOP OF UNIT 186.10 THICKNESS 1.95

UNIT EL80. Weathering Character prom 2 m wide outcrop. Colour WS & FS-m brownish grey. Basal Contact covered. Bedding Character planar irregular. Bed/Lam Thickness min 0.8 cm, max 30 cm, mode 4 cm, laterally continuous over 1 m. Composition ls, xtal size variable from 0.1-0.4 mm, 10% fracture porosity. Sedimentary Structures high-amplitude stylolites. Misc upper 30 cm fractured, basal portions flaggy like upper part of unit EL78.
BASE OF UNIT 186.10 TOP OF UNIT 187.10 THICKNESS 1.00

UNIT EL81. Weathering Character semi-rec. Colour WS-m brownish grey, buff from a distance. FS-m brownish-grey. Basal Contact covered. Bedding Character crackle breccia. Composition ls crackle breccia, 75% ls 'clasts', 15% ls 'matrix', 10% porosity. Clast size max 15 cm, min 0.2-0.4 cm, mode 10 cm. Sedimentary Structures high-amplitude stylolites. Fossils poorly preserved high-spired gastropods to 2 cm high weather out in relief. Misc sl bitumenous odour. EL81 Sample/Slab/Thin Section Description (unoriented rep litho sample), fresh surface colour; wk dk olive-brown (10YR 4/2) clasts in an xlt yellowish orange (10YR 8/3) 'matrix', sedimentary structures; dolomitic mottles in clasts, vugs, composition; tr ostracods in clasts most of which contain peloids, 5% f xyn dolomite ($50 \mu m$ mode) is concentrated in dolomitic mottles. 5% porosity along stylolites and fractures, 70% breccia clasts are larger than 2 mm and consist of sl ostracodal pelmicrosparite, in part the clasts form a 'jigsaw fit'-many clasts and parts of clasts are bleached in an extremely lt yellowish orange 'matrix'. 'Clasts' have trans boundaries. 'Matrix' (30%) consists of microspar/ f xyn spar (ghost outlines of bleached clasts occur in the 'matrix'). Misc; one vug is filled w/ porous microspar and some spar rhombs (originally calcified dolomite?) are replaced by composite microspar. CL; 60% bright orange-luminescent 'matrix' between mainly non-luminescent 'clasts'. Rock Name: sl dolomitic/ostracodal pelmicrosparite 'clast' microspar/f xyn spar 'matrix' crackle breccia.
BASE OF UNIT 187.10 TOP OF UNIT 187.75 THICKNESS 0.65

UNIT EL82. Rec covered interval.
BASE OF UNIT 187.75 TOP OF UNIT 189.40 THICKNESS 1.65

UNIT EL83. Weathering Character semi-rec 1.5 m wide outcrop. Colour WS & FS-m brownish grey. Basal Contact covered. Bedding Character vague lams, laterally continuous over 0.5 m, 1 mm thick, lt & dk alternating lams. Bed/Lam Thickness 1 mm thick lams, 8 cm parting thickness. Composition dolostone, 0.1 mm xtal size. Sedimentary Structures well-developed stylolites, thinly lam(?), hummocky, deformed strata and local breccia in unit. Misc sl bitumenous. EL83 Sample/Slab/Thin Section Description. (rep litho sample taken near top of unit), fresh surface colour; m olive-brown (10YR 5/3), sedimentary structures; planar lam, low-amplitude stylolites, composition; 69% peloids range from 30-200μm in size and have a 75μm mode, 15% microspar between peloids, 10% spar between peloids and along fractures, 2% brown opaque mat'l along stylolites and between/in xtals, some lams contain a high proportion of composite microspar after dolomite rhombs to 100 μm in size, originally 5% of sample. Total now is 1% evenly distributed dolomite, 3% sample porosity along fractures and between xtals. CL; some lams are accentuated by dull orange-luminescent spar. Rock Name: lam pelmicrosparite.
BASE OF UNIT 189.40 TOP OF UNIT 190.65 THICKNESS 1.25

UNIT EL84. Rec covered interval.
BASE OF UNIT 190.65 TOP OF UNIT 191.75 THICKNESS 1.10

UNIT EL85. Weathering Character semi-prom 15 m wide exposure. Colour WS & FS-buff. Basal Contact covered. Bedding Character hummocky. Bed/Lam Thickness 1 mm-thick lams, parting thickness irregular due to fracturing (possibly a 10 cm mode). Composition ls w/ a 0.1 mm xtal size. Sedimentary Structures well-developed, high-amplitude stylolites, hummocky structures, contorted stratification and local brecciation. Misc sl bitumenous. EL85 Sample/Slab/Thin Section Description (rep litho sample taken near top of unit), fresh surface colour; vlt yellowish orange (10YR 7/3), sedimentary structures; high-amplitude (to 3 mm) stylolites bifurcate and reunite laterally, composition; 53% peloids composed of microspar, 35% spar between peloids, 2% brown opaque residue, 5% dolomite in part calcified, 5% interxyn porosity. CL; bright orange-luminescent spar along subvertical fractures and as irregular patches concentrated along certain lams. FLUOR; 3% fluorescent calcite cement. Rock Name: sl dolomitic sparite.
BASE OF UNIT 191.75 TOP OF UNIT 193.50 THICKNESS 1.75

E85 ends within the lower member of the Cape Crauford Formation.

H. FIELD AND SAMPLE DESCRIPTIONS FOR SECTION F, MEASURED IN 1983.

Locality: Cape Crauford.
Latitude: 73°45'25"N.
Longitude: 84°54'00"W.

Section F covers the middle part of the lower member of the Cape Crauford Formation.
Section F at 149 m is taken as stratigraphically equivalent to section G at 150 m and section Ec at 133.5 m. Unit Fa1 is approx equivalent to EL45. Section F is a repeat section and notes are not as complete as for section E. Started measuring 918 m southeast of the Lancaster Sound/stream confluence.

UNIT Fa1. Weathering Character prom. Colour WS & FS-dk grey. Composition locally brecciated dolomitic ls to ls, breccia contains numerous solitary corals many of which are broken. 'Clasts' are randomly oriented, 'matrix' contains colonial corals. Lam from 6.8 to 7.2 m abu, then back to mottled. Misc base of unit Fa1 is 93.2 m asl and is situated 723 m from

the coast.
BASE OF UNIT 93.20 TOP OF UNIT 101.80 THICKNESS 8.60

UNIT Fa2. Weathering Character prom. Colour dk gy. Bedding Character lam dk gy, contains a laterally continuous 1-2 cm thick brecciated unit. Composition calc dolostone, 1-2 cm thick brecciated unit, clast mode 3 mm, laterally continuous over 20-30 m.
BASE OF UNIT 101.80 TOP OF UNIT 103.80 THICKNESS 2.00

UNIT Fa3. Weathering Character semi-prom, Sedimentary Structures mottles. Composition ls w/ brachs & ossicles.
BASE OF UNIT 103.80 TOP OF UNIT 109.15 THICKNESS 5.35

UNIT Fa4. Weathering Character prom. Bedding Character dk grey lams. Composition dolomitic ls to ls. Sedimentary Structures planar lams.
BASE OF UNIT 109.15 TOP OF UNIT 111.25 THICKNESS 2.10

UNIT Fa5. Weathering Character prom. Colour WS-dk grey. Bedding Character interbedded dk grey mottled and dk grey lam beds. Bed/Lam Thickness dk grey lam units 0.25 m thick. Composition dolostone.
BASE OF UNIT 111.25 TOP OF UNIT 113.35 THICKNESS 2.10

UNIT Fa6. Weathering Character prom. Composition mottled dk gy ls to dolomitic ls.
BASE OF UNIT 113.35 TOP OF UNIT 114.00 THICKNESS 0.75

UNIT Fa7. Weathering Character prom. Composition dk gy lam ls.
BASE OF UNIT 114.00 TOP OF UNIT 116.75 THICKNESS 2.75

UNIT Fa8. Weathering Character prom. Description massive buff dolostone, 5-10 cm thick beds.
BASE OF UNIT 116.75 TOP OF UNIT 120.30 THICKNESS 3.55

UNIT Fa9. Prom dk gy lam ls.
BASE OF UNIT 120.30 TOP OF UNIT 122.75 THICKNESS 2.45

UNIT Fa10. Prom massive buff dolostone.
BASE OF UNIT 122.75 TOP OF UNIT 123.50 THICKNESS 0.75

UNIT Fa11. Prom lam dk grey ls.
BASE OF UNIT 123.50 TOP OF UNIT 124.90 THICKNESS 1.50

UNIT Fa12. Prom dk gy mottled ls.
BASE OF UNIT 124.90 TOP OF UNIT 127.00 THICKNESS 2.10

UNIT Fa13. Prom dk grey lam ls.
BASE OF UNIT 127.00 TOP OF UNIT 129.00 THICKNESS 2.00

UNIT F14. Prom buff massive dolostone.
BASE OF UNIT 129.00 TOP OF UNIT 131.30 THICKNESS 2.30

UNIT F15. Prom dk grey massive ls to dk grey dolomitic ls, bitumen on joint surfaces.
BASE OF UNIT 131.30 TOP OF UNIT 135.00 THICKNESS 3.70

UNIT Fa16. Rec massive buff dolostone.
BASE OF UNIT 135.00 TOP OF UNIT 135.40 THICKNESS 0.40

UNIT Fa17. Prom massive ls.

BASE OF UNIT 135.40 TOP OF UNIT 136.90 THICKNESS 1.50

UNIT Fa18. Prom massive buff dolostone.
BASE OF UNIT 136.90 TOP OF UNIT 137.50 THICKNESS 0.60

UNIT Fa19. Prom dk grey mottled dolomitic ls, grades up to buff dolostone. Mottled dolomitic ls contains ossicles.
BASE OF UNIT 137.50 TOP OF UNIT 141.85 THICKNESS 4.35

UNIT Fa20. Prom dk grey lam dolomitic ls, highly fractured to locally brecciated although the upper 3 m is massive.
BASE OF UNIT 141.85 TOP OF UNIT 150.00 THICKNESS 8.15

UNIT Fa21. Prom lam buff dolostone breccia. BASE OF UNIT 150.00 TOP OF UNIT 153.00 THICKNESS 3.00

I. FIELD AND SAMPLE DESCRIPTIONS FOR SECTION G, MEASURED IN 1983.

Locality: Cape Crauford.
Latitude: 73°46'00"N.
Longitude: 84°56'W.

The base of section G begins in the lower member of the Cape Crauford Fm.
Section G at 150 m is taken as correlative w/ section F at 149 m and section E at 133.5 m. Section G is situated approx 900 m north of the stream (by the base camp).

UNIT Ga1. Weathering Character major prom ledge-former. Basal Contact covered. Bedding Character vaguely defined hummocky structures. Composition breccia, dolomitic ls.
BASE OF UNIT 153.00 TOP OF UNIT 156.80 THICKNESS 3.80

UNIT Ga2. Weathering Character prom. Composition dk brown massive calc dolostone. Sedimentary Structures high-amplitude stylolites throughout.
BASE OF UNIT 156.80 TOP OF UNIT 159.40 THICKNESS 2.60

UNIT Ga3. Rec covered interval.
BASE OF UNIT 159.40 TOP OF UNIT 162.00 THICKNESS 2.60

UNIT Ga4. Weathering Character prom. Colour WS-buff w/ malachite staining. Bedding Character lam w/ hummocky structures. Composition calc dolostone, locally brecciated. Fossils corals and stromatoporoids.
BASE OF UNIT 162.00 TOP OF UNIT 164.00 THICKNESS 2.00

UNIT Ga5. Weathering Character prom. Colour WS & FS-buff. Composition calc dolostone. Fossils crinoid stems to 5 cm long & 5 to 7 mm wide, also rare crowns. Ga5 Sample/Slab Description (taken of crinoid stems and a crown), fresh surface colour; vlt yellowish orange (10YR 7/3), composition; 8% favositid corals to 5 cm in size, disparid(?) crinoid stems to 50 mm long and 15 mm wide, some crowns w/ arms, 45% ossicles (w/ crenella and 5-point star-shaped axial canals), tr stick bryozoans, 2% tabular stromatoporoids, tr plicated brachs, 5% spar, 25% f-m xyn dolostone, 15% porosity along stylolites and between xtals/fossils. Rock Name: dolomitic (f-m xyn) crinoidal biosparite.
BASE OF UNIT 164.00 TOP OF UNIT 168.00 THICKNESS 4.00

UNIT Gb6. Weathering Character prom. Colour WS & FS buff, grading to dk gy. Bedding Character inversely-graded rubble breccia (basal 1 m to 1.5 m is buff and contains clasts w/ a

3 cm modal size). Composition rubble breccia, contains buff dolostone and dk grey randomly oriented ls clasts. Clasts to 1 m in size, mode approx 30 cm, from 2 to 7 m abu, modal clast size increases up through unit. At 1 m abu there are approx 30% grey and 60% buff clasts. Fossils ossicles in some clasts.
BASE OF UNIT 168.00 TOP OF UNIT 177.00 THICKNESS 9.00

UNIT Gb7. Weathering Character prom. Colour WS & FS-buff, malachite staining in scree mat'l. Bedding Character wavy unbrecciated lams are overlain by a chert-rich inversely-graded breccia which extends down to cross-cut lams where they are 'downfolded'. Composition inversely graded dolostone breccia w/ chert clasts, the clasts have a 1 cm mode in the basal 10 cm, above this interval clasts are 10 cm or more in size. Sedimentary Structures hummocky structures at base are overlain and are 'cross-cut' by breccia, structures 10 cm wide and 3 cm high, but have a wide range of dimensions.
BASE OF UNIT 177.00 TOP OF UNIT 178.40 THICKNESS 1.40

UNIT Gb8. Weathering Character prom. Colour WS & FS-dk grey. Bedding Character locally brecciated. Composition locally brecciated dk grey ls.
BASE OF UNIT 178.40 TOP OF UNIT 181.00 THICKNESS 2.60

UNIT Gc9. (moved 145 m south to a locality 790 m north of the stream just east of the base camp). Weathering Character prom. Colour WS & FS-buff. Basal Contact covered. Bedding Character inversely-graded breccia. Composition breccia w/ dominantly buff dolostone clasts.
BASE OF UNIT 181.00 TOP OF UNIT 183.00 THICKNESS 2.00

UNIT Gc10. Weathering Character prom. Colour dk gy breccia clasts more com than buff dolostone clasts. Basal Contact trans over 1 m. Composition breccia, dk grey ls clasts more com than buff dolostone clasts, modal size 0.4 to 0.7 m. Fossils ossicles in some grey ls breccia clasts.
BASE OF UNIT 183.00 TOP OF UNIT 188.50 THICKNESS 5.50

UNIT G11. Prom buff dolostone-rich breccia.
BASE OF UNIT 188.50 TOP OF UNIT 189.50 THICKNESS 1.00

UNIT Gc12. Prom dk grey ls-rich breccia.
BASE OF UNIT 189.50 TOP OF UNIT 190.50 THICKNESS 1.00

UNIT Gc13. Prom buff lam highly fractured calc dolostone to dolostone.
BASE OF UNIT 190.50 TOP OF UNIT 191.40 THICKNESS 0.90

UNIT Gc14. Prom lam dk gy inaccessible (ls?) unit.
BASE OF UNIT 191.40 TOP OF UNIT 192.40 THICKNESS 1.00

UNIT G15. Prom massive buff dolostone.
BASE OF UNIT 192.40 TOP OF UNIT 193.90 THICKNESS 1.50

UNIT G16. prom massive dk grey ls.
BASE OF UNIT 193.90 TOP OF UNIT 195.00 THICKNESS 1.10

UNIT G17. Prom massive buff dolostone, minor lt grey beds near top.
BASE OF UNIT 195.00 TOP OF UNIT 198.00 THICKNESS 3.00

UNIT G18. Prom buff calc dolostone, hummocky structures throughout.
BASE OF UNIT 198.00 TOP OF UNIT 201.50 THICKNESS 3.50

UNIT G19. Prom buff dolostone.
BASE OF UNIT 201.50 TOP OF UNIT 202.50 THICKNESS 1.00

UNIT G20. Weathering Character prom. Colour dk grey. Composition dolomitic ls to ls, mottled at base, intraclasts and shell frags increase in proportion up through unit.
BASE OF UNIT 202.50 TOP OF UNIT 204.20 THICKNESS 1.70

UNIT G21. Prom buff dolomitic unit w/ hummocky structures.
BASE OF UNIT 204.20 TOP OF UNIT 206.25 THICKNESS 2.05

UNIT G22. Rec covered interval, buff where visible.
BASE OF UNIT 206.25 TOP OF UNIT 208.20 THICKNESS 1.95

UNIT Gc23. Prom massive buff calc dolostone w/ coated gns. Gc23 Sample/Slab/Thin Section Description (rep litho sample taken 0.8 m abu), fresh surface colour; vlt yellowish orange (10YR 7/3), composition; 1% intraclasts to 12 mm, coated gns (some elongate to 0.2 by 3.6 mm in size and coated gn aggregates (multi-nucleated), many coated gns are interlam dolostone and micrite/microsparite, modal size 100μm, coated gns in silicified areas have high porosity, 5% microspar and 20% spar between coated gns and coated gn aggregates. 3% f xyn chert replaces coated gns, 40% f xyn dolomite mainly in coated gns (50μm xtal mode). Calcified dolomite is com, dolomite rhombs in coated gns are cloudy whereas dolomite in spar between coated gns is clear, 5% porosity in silicified areas. CL; bright orange-luminescent composite spar after gypsum xtals which penetrate the coated gns. The dolomite luminesces very dull red, and in general, calcite is non-luminescent. Rock Name: dolomitic/microsparitic coated gn sparite.
BASE OF UNIT 208.20 TOP OF UNIT 216.20 THICKNESS 8.00

UNIT Gc24. Prom buff coated gn dolostone, Gc24 Sample/Slab/Thin Section Description (rep litho sample taken at base of unit), fresh surface colour; coated gns are vwk xlt yellowish orange (10YR 8/1) in a 10YR 5/2 'matrix', composition; 65% coated gns (mode 2.5 mm, range 0.2-5 mm, spheroidal to ellipsoidal, some to 5 mm long by 0.5 mm wide), many have concentric lamellae, some are asymmetrical, only a few are multi-nucleated, 5% f xyn spar, 2% bitumen, dolomite between coated gns is vf-f xyn, coated gns consist of aphanoxyn/vf xyn dolomite, sample porosity is 5% and is especially high between the concentric lamellae of the coated gns. CL; a uniform dull red luminescence. Rock Name: sl sparry/coated gn aphano to f xyn dolostone.
BASE OF UNIT 216.20 TOP OF UNIT 216.80 THICKNESS 0.60

UNIT Gc25. Prom buff dolostone. Sedimentary Structures convex-up structures 8 cm wide and 4 cm high, minor vugs.
BASE OF UNIT 216.80 TOP OF UNIT 218.20 THICKNESS 1.40

UNIT Gc26. Prom dk grey massive oolitic calc dolostone to dolostone, basal 0.5 m contains intraclasts and vugs.
BASE OF UNIT 218.20 TOP OF UNIT 222.50 THICKNESS 4.30

UNIT Gc27. Prom dk grey dolomitic ls.
BASE OF UNIT 222.50 TOP OF UNIT 223.00 THICKNESS 0.50

UNIT Gc28. Prom buff massive dolostone.
BASE OF UNIT 223.00 TOP OF UNIT 224.00 THICKNESS 1.00

UNIT Gc29. Weathering Character; semi-rec. Colour WS & FS buff to lt brown. Basal Contact covered. Composition rubble breccia w/ 1 cm modal clast size. There is a high proportion of chert clasts. Sedimentary Structures convex-up structures (to 30 cm wide and 5 cm high) within breccia 4 m abu, abundant 1 cm-sized clast moulds.
BASE OF UNIT 224.00 TOP OF UNIT 226.00 THICKNESS 2.00

UNIT Gc30. Prom dk grey bedded ls w/ dk grey chert lenses to 20 cm long and 1 cm thick,

locally brecciated, high-amplitude stylolites. Gc30 conodont sample taken.
BASE OF UNIT 226.00 TOP OF UNIT 226.80 THICKNESS 0.80

UNIT Gc31. Prom buff lam ls w/ local breccia beds, contains lenses of chert and ls. High-amplitude stylolites are numerous and define a subvertical lineation.
BASE OF UNIT 226.80 TOP OF UNIT 228.70 THICKNESS 1.90

UNIT Gc32. Prom dk grey ls, lam to thin bedded, locally brecciated. Basal contact is planar but deformed.
BASE OF UNIT 228.70 TOP OF UNIT 230.10 THICKNESS 1.40

UNIT Gc33. Prom breccia, large buff dolostone 'clasts', small dk 'clasts' and calc 'matrix'.
BASE OF UNIT 230.10 TOP OF UNIT 232.80 THICKNESS 2.70

UNIT Gc34. Rec covered interval.
BASE OF UNIT 232.80 TOP OF UNIT 242.10 THICKNESS 9.30

UNIT Gd35. Weathering Character prom, cavernous weathering at base, buttress-shaped outcrops to 30 m wide. Colour WS & FS-dk brownish grey, dk grey at a distance. Basal Contact covered, convex-up structures near the base. Composition mosaic to rubble breccia, 70% 'clasts', 30% 'matrix' (contains clasts to 30 cm in size). Porosity is 5-10% due to dissolved clasts. Clasts are mostly ang, lam ls to dolomitic ls, randomly oriented at base, almost bedded at top. Max size 1 m, mode 4-5 cm. Misc minor fault w/ 15 cm apparent displacement, beds dip 2 to 3°E. Gd35 Sample/Slab/Thin Section Description (rep litho sample taken at base of unit, contains convex-up structures), fresh surface colour; overall wk dk olive-brown (10YR 4/2), sedimentary structures; low-amplitude stylolites grade laterally into fractures. Some subvertical spar veinlets terminate at stylolites. Stylolites form the boundaries of some clasts, composition; 5% ostracods (0.5 mm mode) in clasts, 10% f-c xyn spar between clasts, 15% dolomite, 5% porosity along stylolites and fractures, 65% clasts, composed of dolomitic (f-m xyn) sl ostracodal pelmicrosparite (min 2 mm, max indet, mode 2 cm?). CL; bright orange-luminescent 'matrix' between 'clasts', including complex multi-fold zonation. Dolomite in clasts luminesces dull red. FLUOR; fluorescent-zoned scalenohedral spar isopachous cement on peloids, fractures are lined w/ zoned spar. Rock Name: dolomitic sl ostracodal pelmicrosparite 'clast' spar 'matrix' mosaic to rubble breccia.
BASE OF UNIT 242.10 TOP OF UNIT 243.30 THICKNESS 1.20

The base of G36 is taken as the base of the upper member of the Cape Crauford Formation.

UNIT G36. Weathering Character prom ledge-former. Colour WS & FS-dk brownish grey, dk grey from a distance. Basal Contact irregular, trans over 20 cm. Bedding Character lam to massive, mottled from 3.7 m abu and up. Bed/Lam Thickness min 2 mm, max 4 mm, mode 3 mm, laterally continuous for several metres, lam part 1.5 m abu. Composition dolomitic ls w/ <1% carb film, xtal size 0.2 mm. Sedimentary Structures planar lams 0.75 m thick from 1.5 m to 3.3 m abu. Fossils ostracods(?) 3.0 m abu. Misc bitumenous odour, some bitumen in pore space above 3.7 m abu. Gd36 Sample/Slab/Thin Section Description (contains ostracods 3 m abu), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; low-amplitude stylolites, composition; 30% articulated ostracods to 4.5 mm in size, filled w/ peloids, 5% ostracod frags. 15% micrite, 30% microspar, 5% m-c xyn spar veinlet and 5% spar between peloids and peloid aggregates, 5% f-m xyn dolomite is concentrated in articulated ostracods, 10% vf-f xyn dolomite near stylolites, dolomite com has microspar inclusions and in places is leached, calcified dolomite com, 5% sample porosity distributed along stylolites, high interxyn porosity near stylolites. CL; bright orange-luminescent spar fills hairline fractures. Wide fractures are lined w/ bright orange-luminescent spar and filled w/ non-luminescent spar. FLUOR; minor weak fluorescent-zoned clear vug-filling spar. Rock Name: dolomitic/micritic/sparry ostracodal biomicrosparite. G36a Sample/Slab Description. (from upper part of unit), sedimentary structures; 1 mm wide 'tubes' on bedding planes,

dolomitic mottles, low-amplitude stylolites, composition; tr ostracods, 50% microspar, 5% spar as subvertical veins, 35% f-m xyn dolomite is concentrated as dolomitic mottles and along stylolites, 10% porosity along stylolites and between xtals, especially in the dolomitic mottles. Rock Name: sl sparry/dolomitic microsparite.
BASE OF UNIT 243.30 TOP OF UNIT 252.80 THICKNESS 9.50

UNIT G37. Rec covered interval.
BASE OF UNIT 252.80 TOP OF UNIT 263.60 THICKNESS 10.80

UNIT Gd38. Weathering Character prom, buttress-shaped 30 m wide outcrop. Colour WS & FS-buff. Basal Contact covered. Bedding Character thick-bedded units form mosaic breccia, thin bedded units form rubble breccia. Mosaic breccia is also traceable laterally into rubble breccia. Bed/Lam Thickness mode 0.3 m. Composition breccia, 'clasts' are 79% dolostone, 1% dk grey chert 'clasts', 15% 'matrix' consists of extremely c xyn spar w/ xtals to 1 cm, 5% sample porosity. Clasts are randomly oriented at base and fractured in place 1.4 m abu. Clast size mode 17 cm in breccia pipe, clasts sbang, planar faces are formed by joint surfaces. Clasts are dolomitic 4.4 m abu. Sedimentary Structures some clasts are mottled, clast moulds com. Gd38 Sample Description (taken of breccia w/ 'matrix'), fresh surface colour; vlt orangy yellow (2.5Y 7/3). Breccia contains clasts and numerous clast moulds to 30 mm in size, extremely c xyn spar between clast moulds.
BASE OF UNIT 263.60 TOP OF UNIT 269.50 THICKNESS 5.90

UNIT Gd39. Weathering Character prom, outcrop is buttress-shaped and 30 m wide. Colour WS & FS-mottled, buff. Basal Contact indistinct, grades laterally to breccia. Bed/Lam Thickness parting mode 0.3 m. Composition dolostone, from 7.5 to 9.5 m abu the percentage of breccia in veins increases but the unit is still mottled. From 10-22.5 m abu there are small concretions (1-2 cm in size) that become less numerous above 15.5 m abu. At 11.7 m abu there is a horizon of black chert lenses traceable laterally for 10 m. From 10.5 to 12 m abu it is quite fossiliferous containing orthoconic nautiloids, colonial and solitary corals as well as ossicles. Mottles increase to 3 cm in size 14.5 m abu and the unit is still dolostone. Colonial corals present. At 21.5 m abu it is mottled and in part brecciated. Veins occur throughout unit-colonial coral found. From 28.5-30.5 m abu there is a bed of white concretionary structures (each 3-4 cm across and w/ brown 'rinds') that are probably altered mottles. Sedimentary Structures mottles. Fossils 1 small solitary coral, 1 plicated brach 4.5 m abu. 2-3% ossicles, 4 orthoconic nautiloids to 3 cm in size 12 m abu. Gd39 Sample/Slab/Thin Section Description. (rep litho sample taken 2 m abu), fresh surface colour; vlt orangy yellow (2.5Y 7/3), sedimentary structures; ghost mottles and numerous low-amplitude stylolites, minor cross-cutting f-m xyn spar veinlets, composition; 10% dolomitic ostracod frags, 5% dolomitic ossicles, 5% spar fills fractures and occurs between xtals/gns, tr white chert, 65% f-m xyn dolomite, larger dolomite xtals have clear rims and inclusion-rich lt brown cores, 15% porosity along stylolites/fractures and between xtals/gns, high porosity and permeability on either side of cross-cutting f-m xyn spar vein. CL; patchy moderate orange-red luminescent dolomite. FLUOR; 20% fluorescent-zoned dolomite, especially dolomite filling vugs. Rock Name: sl sparry ostracodal f-m xyn dolostone. Gd39a Sample/Slab/Thin Section Description (taken 3.5 m abu, contains a solitary coral), fresh surface colour; wk vlt orangy yellow (2.5Y 7/2), sedimentary structures; 'ghost' mottles, low-amplitude stylolites, composition; 15% ossicles, minor stem frags, 15% favositid corals, 10% spar fills corallites and fractures, tr length-slow chalcedony spherules, 15% polyxyn quartz some of which is pseudomorphic after carbonate rhombs, 2% opaque minerals(?), 35% f-m xyn dolomite, limpid dolomite lines and spar fills some corallites, minor calcified dolomite, 18% porosity especially along stylolites and between xtals. CL; a peculiar (asymmetric multi-fold zoned, red luminescent) limpid dolomite lines vugs. Vug-filling spar and silicified corallites are non-luminescent. The dolomite luminesces dull orange-red. FLUOR; com zoned fluorescent dolomite. Rock Name: siliceous/fossiliferous/sparry f-m xyn dolostone. Gd39b Sample Description (taken 11.5 m abu) contains an orthoconic nautiloid). Gd39c Sample/Slab/Thin Section Description (rep litho sample taken 23 m abu), fresh surface colour; wk vlt orangy yellow (2.5Y 7/2),

sedimentary structures; low-amplitude stylolites, composition; fossils have all been dolomitized, 20% ossicles to 5 mm in size, small proportion of echinoderm stems to 20 mm long, 8% spar veins cross-cut bedding, 47% f-m xyn dolomite, limpid dolomite lines fractures and vugs that are filled w/ m-c xyn spar, dolomite has been leached in areas not cemented by spar. There are no calcified dolomite nor microspar inclusions in the dolomite, 25% porosity along stylolites/ fractures and especially between xtals, leached porosity in dolomite rhombs and porosity between gns. CL; a peculiar (asymmetric, orange-red zoned luminescent) limpid dolomite lines vugs. Most spar filling vugs is non-luminescent although there are exceptions such as zonation that crosses the spar xtal boundaries. In general, dolomite luminesces a uniform dull orange-red. FLUOR; dolomite and fracture-filled spar is com zoned. Rock Name: sl sparry ossicle-rich f-m xyn dolostone. Gd39d Sample/Slab/Thin Section Description (rep litho sample taken 32.2 m abu), fresh surface colour; mottled wk m brownish olive (2.5Y 5/2) and wk vlt orangy yellow (2.5Y 7/2), sedimentary structures; low-amplitude wispy stylolites are marked by yellowish orange residue, 1% vugs to 3 mm in size, ghost mottle texture, composition; ghosts of 10% articulated ostracods to 1.8 mm in size and 3% shell frags, ghost peloid texture inside ostracods, 2% spar fills fractures and 2% bitumen lines vugs and fills interxyn pore space, 79% dolomite xtals some of which have inclusion-rich cores and clear rims, lt mottles-dolomite xtal size is 100μm, also a higher proportion of limpid dolomite in lt mottles, dk mottles consist of f xyn dolomite (30μm mode), unmottled areas contain f xyn dolomite, 3% porosity along stylolites, fractures and between xtals. CL; uniform dull red-luminescent dolomite, orange-luminescent vug-lining dolomite. FLUOR; com fluorescent-zoned dolomite. Rock Name: mottled ostracodal f-m xyn dolostone.
BASE OF UNIT 269.50 TOP OF UNIT 301.90 THICKNESS 32.40

UNIT Gd40. Weathering Character prom buttress-shaped outcrop. Colour WS-buff, FS-m grey. Basal Contact planar trans over 10 cm. Bed/Lam Character planar irregular, grades laterally into breccia. Bed Parting Thickness min 0.5 cm, max 10 cm, mode 4 cm. Composition dolostone, locally brecciated. Sedimentary Structures mottles. Fossils tr radiating and branching arms of an echinoderm crown. At 2 m abu-vague planar lams and breccia veins occur throughout the unit. Gd40 Sample/Slab Description. (rep litho sample taken 1 m abu), fresh surface colour; wk lt brownish olive (2.5Y 6/2), sedimentary structures; low-amplitude stylolites are accentuated by yellowish orange residue, a few spar veins cross-cut bedding, composition; radiating and branching arms of a crinoid crown, arms are 5 mm in diameter, tr spar-filled fractures, 90% f xyn dolomite (30μm mode), 10% porosity along stylolites and between xtals, interxyn porosity is especially high in a zone around spar-filled fractures and near stylolites. Rock Name: f xyn dolostone.
BASE OF UNIT 301.90 TOP OF UNIT 306.00 THICKNESS 4.10

UNIT Gd41. Prom mottled dolostone w/ breccia veins. Echinoderm stem 5.25 m abu is 2 cm long.
BASE OF UNIT 306.00 TOP OF UNIT 312.80 THICKNESS 6.80

UNIT Gd42. Weathering Character a prom buttress-shaped outcrop. Colour WS & FS-m brownish grey. Basal Contact trans through breccia, basal portion brecciated-becomes bedded & not so brecciated up through unit. Bedding Character planar to sl irregular beds, locally brecciated. Bed Thickness parting mode 3 cm, fairly continuous laterally over 2-3 m. Composition dolostone w/ 10% fracture and vuggy porosity, locally brecciated. Sedimentary Structures planar lams. Gd42 Sample/Slab Description (rep litho sample taken at base of unit), fresh surface colour; wk vlt orangy yellow (2.5Y 7/2), sedimentary structures; vaguely defined bedding, minor fractures cross cut bedding, poorly indurated, very permeable, composition; 2% f-m xyn spar along stylolites, 83% f xyn dolomite (50μm mode), 15% porosity along fractures and stylolites, enhanced interxyn porosity near fractures and stylolites. Rock Name: f xyn dolostone.
BASE OF UNIT 312.80 TOP OF UNIT 313.55 THICKNESS 0.75

UNIT Gd43. Weathering Character prom buttress. Colour WS-buff to white, 1 mm rusty

brown streaks are parallel to lam. FS-lt grey. Basal Contact abrupt planar. Bedding/Lam Character vague planar lam. Bed Parting Thickness min 4 cm, max 50 cm, mode 15 cm. Composition dolostone. Sedimentary Structures vague planar lam, laterally continuous over several metres. Misc well indurated. Gd43 Sample/Slab Description (rep litho sample taken 0.45 m abu), fresh surface colour; wk xlt orangy yellow (2.5Y 8/2), composition; 2% microspar/spar as 0.5 mm wide veins that cross-cut bedding, 93% f xyn dolomite, 5% porosity between xtals and along fractures, rust-coloured oxide (limonite?) concentrated along stylolites and as patches along bedding planes, porosity/permeability is accentuated in limonitic patchy areas, sedimentary structures; relict stylolites. Rock Name: f xyn dolostone.
BASE OF UNIT 313.55 TOP OF UNIT 316.50 THICKNESS 2.65

UNIT Gd44. Rec covered interval.
BASE OF UNIT 316.50 TOP OF UNIT 318.00 THICKNESS 1.50

UNIT Gd45. Prom mottled dolostone as for Gd39 & Gd41. Concretionary horizon from 1.3 to 2.5 m abu. White 'concretions' approx 10 cm across w/ dk brown 'rinds', probably are altered mottles. Gd45 Sample/Slab Description (unoriented sample w/ 'concretions' taken), fresh surface colour; wk vlt orangy yellow (2.5Y 7/2), 10% vugs to 5 mm, low-amplitude stylolites are accentuated by yellowish orange residue, one chert nodule (70 x 15 mm), which is elongate parallel to bedding contains tr brown pseudomorphs after pyrite, composition; tr spar, 10% lt brown chert nodule w/ white center, 70% m xyn dolomite (100μm mode), 20% porosity is distributed as 10% vugs, 10% along fractures/stylolites and between xtals. Rock Name: vuggy m xyn dolostone.
BASE OF UNIT 318.00 TOP OF UNIT 321.50 THICKNESS 3.50

UNIT Gd46. Rec covered interval except for mottled dolostone 8.5 and 12.5 m abu.
BASE OF UNIT 321.50 TOP OF UNIT 339.00 THICKNESS 17.50

UNIT Gd47. Weathering Character prom. Description mottled unit as for Gd39 and Gd41, contains white 'concretions' (1 to 4 cm across) w/ dk brown rinds. Basal Contact covered. Gd47 Sample/Slab/Thin Section Description fresh surface colour; wk vlt orangy yellow (2.5Y 7/2), composition; 2% ossicles composed of dolomite, 2% spar and 2% bitumen between dolomite xtals, 88% m xyn dolomite, anhedral intergrown xtals, dolomite xtals have inclusion-rich cores and clear rims, est 3% inclusions in dolomite, 10% porosity as vugs and along stylolites, fractures and between xtals. Interxyn porosity is especially high near stylolites and fractures. CL; uniform moderate orange-red luminescent dolomite. FLUOR; fluorescent-zoned pore-filling dolomite. Rock Name: m xyn dolostone.
BASE OF UNIT 339.00 TOP OF UNIT 340.20 THICKNESS 1.20

UNIT Gd48. Rec covered interval.
BASE OF UNIT 340.20 TOP OF UNIT 345.00 THICKNESS 4.80

J. FIELD AND SAMPLE DESCRIPTIONS FOR SECTION H, MEASURED IN 1983.

Locality: Cape York.
Latitude: 73°49'30"N.
Longitude: 86°50'00"W.

The base of section H is in the lower member of the Cape Crauford Formation.
Distances are east of creek near basecamp. At 1,124 m there is an outcrop of breccia in coastal cliffs. At 1,355 m there is stratified breccia along the coast.
CYS Sample/Slab/Thin Section Description (pyrite mineralization in scree, sample taken near sealevel, 1,502 m east of base camp), fresh surface colour; wk vlt yellowish-orange (10YR 7/2), sedimentary structures; vugs to 8 mm filled w/ m-c xyn pyrite, low-amplitude stylolites,

composition; 10% ossicle ghosts (dolomitic), 5% favositid coral frags (dolomitic) to 1 cm in size, tr spar, 10% pyrite xtals, some have dissolved to leave moulds in length slow chalcedonic areas. There are also well-defined moulds in the chalcedony resembling anhydrite, 50% f xyn dolomite (50μm mode), 15% porosity as vugs and between xtals, 10% silica. CL; dull orange-red luminescent dolomite, chert is non-luminescent. Rock Name: pyritic/chalcedonic/cherty fossiliferous f xyn dolostone. Scl Scree Sample Description (taken between 1600 m to 2,267 m east of base camp just above sealevel), sedimentary structures; low-amplitude stylolites, some vugs filled w/ 2% accumulations of f-c xyn pyrite, composition; 68% f xyn dolomite, 2% pyrite in vugs, 10% vugs to 1 cm in size are lined w/ c xyn limpid dolomite. 20% interxyn porosity. Rock Name: sl pyritic/vuggy f xyn dolostone. The base of section H is 2,094 m east of the base camp. Milf Sample/Slab Description (taken of structures resembling digitate stromatolites from breccia clast just above sealevel, 4,286 m east of base camp), fresh surface colour; interlam wk vlt yellowish-orange (10YR 7/2) and wk lt olive-brown (10YR 6/2), sedimentary structures; club-shaped stromatolitic structures to 130 mm high by 55 mm wide, convex-up structures inside columns, low-amplitude brown wavy films define wavy lam, composition; 80% vf-f xyn dolomite, 20% interxyn porosity. Rock Name: vf-f xyn dolostone. At 3,125 m-east of base camp-good outcrop at sealevel which underlies unit H0. The base of unit H0 is sealevel.

UNIT H0. Weathering Character semi-prom. Colour WS & FS-buff. Basal Contact covered. Composition breccia, dolomitic, clasts w/ stromatolitic structures in unit, carb lams in clasts and digitate stromatolitic structures. BASE OF UNIT 0.00 TOP OF UNIT 4.00 THICKNESS 4.00

UNIT H1. Weathering Character prom 10 m-wide outcrop. Colour WS & FS-buff from a distance, coated gns/clasts are m brown. Basal Contact abrupt irregular, breccia occurs below but is only partially visible. Composition ls w/ 4-5% vugs to 1 cm in size, partial fracture porosity, insoluble residue concentrated along stylolite surfaces. Sedimentary Structures com high-amplitude stylolites throughout unit, large variously-shaped coated clasts comprise 80% of unit. Ha1 Sample/Slab/Thin Section Description (rep litho sample w/ coated clasts taken 0.75 m abu), fresh surface colour; variable m olive-brown (10YR 5/3) to wk vlt yellowish orange (10YR 7/2), sedimentary structures; extensive high-amplitude (to 10 mm) stylolites accentuated by 250μm thick black residue along stylolites, some of the coatings on the coated clasts have been dissolved (are bounded by high-amplitude stylolites), coatings have a radial structure defined by inclusion-rich and inclusion-poor radial xtal zones, composition; 40% microspar, 54% f-m xyn spar, 1% chert replaces carbonate rhombs along stylolites, 5% porosity along stylolites. CL; alternate lamellae of coated clasts consist of bright orange-luminescent spar, 3% blue-luminescent fluorite after dolomite is concentrated in residue along stylolites. FLUOR; 30% pore-filling dull fluorescent-zoned spar. Rock Name: microsparitic f-m xyn sparite coated clast breccia.
BASE OF UNIT 4.00 TOP OF UNIT 5.00 THICKNESS 1.00

UNIT Ha2. Weathering Character prom. Colour WS-buff, FS-m brown. Basal Contact abrupt wavy. Bedding Character lam to thin-bedded, individual lams traceable for several metres. Bed/Lam Thickness min 1 mm, max 6.0 cm, mode 1.5 cm. Composition unfossiliferous ls, gn/xtal size <0.1 mm, 2% carb lams to 0.25 mm thick. Sedimentary Structures planar to wavy lam/bedding, high-amplitude stylolites w/ com carb residue. Misc subvertical fractures.
BASE OF UNIT 5.00 TOP OF UNIT 5.50 THICKNESS 0.50

UNIT Ha3. Weathering Character prom unit is traceable laterally for over 900 metres, same as breccia 1,347 m east of base camp. Colour WS & FS-irregular m grey and buff. Basal Contact abrupt wavy. Composition breccia, 70% 'clasts', 20% 'matrix', 10% porosity. Breccia is chaotic, lacks large 1 m-sized clasts at base. Tr black chert. Clast size min 4.0 cm, max 1.5 m, mode 30 cm, both buff and m gy clasts. randomly oriented, sbang to ang. Clast composition-mostly m brownish-grey ls clasts and a few buff ls clasts at the base, buff

'matrix' at base, 1-2% carb mat'l surrounds clasts. One clast is brecciated. Sedimentary Structures high-amplitude stylolites. Misc breccia extends up to covered interval where it ends approx 28.5 m abu.
BASE OF UNIT 5.50 TOP OF UNIT 22.00 THICKNESS 16.50

UNIT H4. Rec covered interval.
BASE OF UNIT 22.00 TOP OF UNIT 47.65 THICNESS 25.65

UNIT Hb5. Weathering Character semi-prom 10 m-wide outcrop. Colour WS & FS-buff. Basal Contact covered. Bedding Character vague planar lam. Composition ls w/ carb lam, black chert nodule w/ 0.1 mm xtal size. Bed Parting Thickness max 15 cm, min 5 cm. Sedimentary Structures vague lam, com high-amplitude stylolites. Misc 5 cm-sized black chert nodules. Hb5 Sample/Slab/Thin Section Description (rep litho sample taken at top of unit contains high-amplitude stylolites), fresh surface colour; vlt yellowish orange (10YR 7/3), sedimentary structures; small-scale low-amplitude tangential cross-strata w/ sets to 5 mm thick, stylolites w/ amplitudes to 2.5 mm, composition; 2% composite microspar/f xyn spar after gypsum xtal laths to 125µm long, gn size mode is 10-20µm, 1% dolomite after microspar/spar, 5% porosity along lams/fractures and between xtals/gns. CL; non-luminescent except for 2% bright orange-luminescent overgrowths on composite spar after gypsum xtals. Rock Name: cross-lam f-gn calcilutite. Sample Hb5a taken for conodonts.
BASE OF UNIT 47.65 TOP OF UNIT 48.65 THICKNESS 1.00

UNIT H6. Rec covered interval w/ buff hummocky ls between 7.95 and 8.15 m abu.
BASE OF UNIT 48.65 TOP OF UNIT 61.35 THICKNESS 12.70

UNIT Hc7. Weathering Character semi-prom 3 m-wide outcrop. Colour WS & FS-buff. Basal Contact covered. Bedding Character vague planar lam/bedding. Bed Parting Thickness mode 4.0 cm. Composition ls w/ 0.2 mm xtal size. Sedimentary Structures vague planar lam/bedding.
BASE OF UNIT 61.35 TOP OF UNIT 61.70 THICKNESS 0.35

UNIT Hc8. Weathering Character prom 5 m-wide outcrop. Colour WS & FS-buff. Basal Contact abrupt wavy to hummocky. Bedding Character hummocky and convex-up. Bed/Lam Thickness lam. Composition unfossiliferous ls (0.1 mm xtal size) w/ black chert nodules to 3 cm wide. Sedimentary Structures hummocky lam (70 cm wide and 10 cm high) w/ smaller superimposed 5 cm wide and 1 to 2 cm high convex-up and wavy structures, minor local breccia. Misc well indurated. Hc8 Sample/Slab/Thin Section Description (rep litho sample taken 1.45 m abu), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; convex-up lam, minor crackle breccia, minor low-amplitude stylolites, composition; 93% vf-f xyn spar, tr chert, 3% f-c xyn spar veins, 1% vf xyn dolomite, 3% porosity along and near stylolites and between xtals, misc; tr white chert nodules to 1 mm in size, coated gns/clasts formed in inter-hummock depressions. CL; non-luminescent except for spar-filled subvertical fractures which luminesce a bright orange. One wide spar-filled veinlet, however is non-luminescent except at the middle of the veinlet. Rock Name: hummocky lam f xyn sparite.
BASE OF UNIT 61.70 TOP OF UNIT 63.55 THICKNESS 1.85

UNIT Hc9. Rec covered interval.
BASE OF UNIT 63.55 TOP OF UNIT 65.05 THICKNESS 1.50

UNIT Hc10. Weathering Character semi-prom 8 m-wide outcrop. Colour WS & FS-buff. Basal Contact covered. Composition ls w/ brown carb lams, large hummocky structure is several metres wide and has a 20 cm amplitude, overlies smaller hummocky structures. Misc minor fracture porosity.
BASE OF UNIT 65.05 TOP OF UNIT 66.45 THICKNESS 1.40

UNIT Hc11. Weathering Character semi-prom but poorly exposed. Colour WS & FS-buff. Basal Contact abrupt, wavy. Composition vuggy ls breccia. Sedimentary Structures very abundant high-amplitude stylolites, vugs. Hc11 Sample/Slab/Thin Section Description fresh surface colour; wk vlt yellowish orange (10YR 7/2) clasts in a vwk m olive-brown (10YR 5/1) 'matrix', sedimentary structures; very high amplitude (to 8 mm) stylolites, some clasts are rotated at right angles to bedding. Stylolites occur along the rotated clast boundaries, composition; 60% clasts to 3 cm in size are composed of microsparite, and have a clotted texture, 40% 'matrix' consists of f-m xyn sparite interspersed w/ microsparite, misc; numerous veins of spar cross-cut the sample, 5% f xyn dolomite is in part calcified, 15% vugs between clasts. CL; spar of 'matrix' between clasts is orange-luminescent. FLUOR; fluorescent-zoned spar is com between clasts. Rock Name: microspar 'clast' (f-m xyn spar/microspar 'matrix') crackle to mosaic breccia.
BASE OF UNIT 66.45 TOP OF UNIT 66.55 THICKNESS 0.10

UNIT Hc12. Rec covered interval.
BASE OF UNIT 66.55 TOP OF UNIT 68.95 THICKNESS 2.40

UNIT Hc13. Weathering Character semi-prom 4-5 m wide outcrop. Colour WS-buff, FS-m brown. Basal Contact covered. Bed/Lam Parting Thickness max 14 cm, min 4 cm, mode 8 cm. Composition ls w/ 0.1 mm xtal size mode. Sedimentary Structures vague bedding. Fossils leperditid ostracods to 3 cm in size, moderately to well preserved, locally abundant on some bedding plane surfaces. Brachs <1% are of 2 kinds; 1. smooth w/ prom sulcus 2. ones w/ plications. Brachs may be crushed or moderately to well preserved. Hc13 Sample/Slab Description (taken of brachs and ostracods throughout the unit), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; low-amplitude stylolites, composition; 17% articulated leperditid ostracods to 30 mm in size, filled w/ sl dolomitic microspar, 3% plicated rhynchonellid brachs to 6 mm wide, 25% microspar, 5% spar, 45% f-m xyn evenly distributed dolomite rhombs, 5% interxyn porosity. Rock Name: dolomitic/sl sparry ostracodal biomicrosparite.
BASE OF UNIT 68.95 TOP OF UNIT 69.60 THICKNESS 0.65

UNIT Hc14. Weathering Character semi-prom. Colour WS & FS-buff. Basal Contact wavy. Bedding Character wavy. Composition ls w/ 0.4 mm xtal size, minor 3-4% vugs. Sedimentary Structures wavy structures w/ a 30 cm wavelength and a 3 to 4 cm amplitude.
BASE OF UNIT 69.60 TOP OF UNIT 69.90 THICKNESS 0.30

UNIT Hc15. Weathering Character semi-rec. Colour WS & FS-m brownish-grey. Basal Contact abrupt wavy. Composition ls w/ carb films. Hc15 Sample/Slab/Thin Section Description (rep litho sample taken 0.8 m abu), fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; low-amplitude stylolites, composition; 3% ostracod valve frags to 200μm thick, valve microstructure consists of calcite xtals at right angles to the valve boundaries. 10% micrite, 66% microspar, 15% spar in a clotted texture, 3% vf-f xyn dolomite mainly along stylolites, minor calcified dolomite, 3% interxyn porosity. CL; a patchy very dull orange-red luminescence. Rock Name: sl dolomitic/micritic ostracod-bearing pelmicrosparite.
BASE OF UNIT 69.90 TOP OF UNIT 72.15 THICKNESS 2.25

UNIT Hc16. Weathering Character semi-prom but half-covered 4 m-wide outcrop. Colour WS & FS-buff. Basal Contact abrupt wavy. Bedding Character hummocky structures w/ a mode of 0.5 m and a 5-10 cm amplitude. Composition calc dolostone. Hc16 Sample/Slab/Thin Section Description (rep litho sample taken at base of unit), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; coated gns, some of which have been partly dissolved and crushed (broken lams w/ dissolved centers), ghost texture of stylolites defined by opaques, low-amplitude stylolites occur within coated gns, composition; 70% elongate multi-nucleated coated gns to 1 cm long, coatings consist of micritic microspar, vf xyn pyrite xtals are concentrated in the outermost coatings of some of the coated gns, some centers are f xyn spar, 'matrix' consists mainly of clotted microspar, 1% vf xyn dolomite, 5%

porosity along stylolites/fractures, between coatings in coated gns, and between xtals/gns. CL; coated gns have alternating dull orange-red and non-luminescent lamellae, spar filling veinlets luminesces bright orange. Rock Name: sparry coated gn microsparite.
BASE OF UNIT 72.15 TOP OF UNIT 73.40 THICKNESS 1.25

UNIT Hc17. Rec covered interval.
BASE OF UNIT 73.40 TOP OF UNIT 73.85 THICKNESS 0.45

UNIT Hc18. Weathering Character semi-prom 20 m-wide outcrop. Colour WS-mottled m brownish grey. FS-m brown. Basal Contact covered. Composition ls. Sedimentary Structures mottled, high-amplitude stylolites. Misc well indurated mottled unit is traceable laterally into non-mottled lateral equivalent. Hc18 Sample/Slab/Thin Section Description (rep litho sample taken 0.70 m abu), fresh surface colour; mottled wk dk olive-brown (10YR 4/2) and wk lt olive-brown (10YR 6/2), sedimentary structures; abundant low-amplitude stylolites in dk mottles. Mottles are irregularly-shaped to several cm in size and are calc, not dolomitic, lt mottles contain less spar and fewer stylolites than the dk mottles, mottle boundaries are com high-amplitude stylolites, composition; 3% ostracod frags, only one specimen (7 mm in size) is articulated, 69% peloid aggregates, (composed of micritic microspar). 10% microspar, 15% spar, 1% vf-f xyn dolomite mainly along stylolites, 2% interxyn porosity. CL; non-luminescent. FLUOR; fluorescent scalenohedral isopachous spar cement coats peloids, spar filling inter-peloid space is non-fluorescent. Rock Name: mottled microsparitic pelsparite.
BASE OF UNIT 73.85 TOP OF UNIT 75.15 THICKNESS 1.30

UNIT Hc19. Weathering Character semi-prom 15 m-wide outcrop. Colour WS-buff, FS-m brown. Basal Contact abrupt, wavy. Bedding Character hummocky structures 1.0 m wide and 5-10 cm high. Bed/Lam Parting Thickness a well-defined 1 mm mode. Composition ls.
BASE OF UNIT 75.15 TOP OF UNIT 78.20 THICKNESS 3.05

UNIT H20. Rec covered interval.
BASE OF UNIT 78.20 TOP OF UNIT 90.05 THICKNESS 11.85

The base of unit H21 is taken as the contact between the upper and lower members of the Cape Crauford Formation.

UNIT Hd21. Weathering Character prom m brown ledge-former hundreds of metres wide. Colour WS & FS-m brownish grey. Basal Contact covered. Bedding Character planar bedded/lam, laterally traceable for many metres and has a constant thickness. Bed/Lam Thickness min 5 mm, max 20 cm, mode 3.0 cm. Composition ls w/ a zone of bluish black chert nodules (to 20 cm long and 5 cm thick), traceable laterally for 100's of metres. This chert nodular zone was observed along the coast between 2,029 m and 2,876 m east of base camp and 2.65 m abu. Sedimentary Structures planar bedding. Hd21 Sample/Slab/Thin Section Description (rep litho sample taken 1.0 m abu), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; minor low-amplitude stylolites, composition; 1% ostracod frags, rare articulated ostracods. 63% peloids (75μm size mode) are composed of microspar, many peloids have been altered to superficial coated gns w/ a radial calcite xtal structure, 'matrix' consists of 10% microspar and 15% spar, 1% dolomite, 10% interxyn porosity especially along stylolites. CL; non-luminescent. Rock Name: coated gn microsparitic pelsparite.
BASE OF UNIT 90.05 TOP OF UNIT 98.90 THICKNESS 8.85

UNIT Hd22. Weathering Character semi-prom, outcrop is 3 m wide and partially scree-covered. Colour WS & FS-buff. Basal Contact covered. Bedding Character planar lam. Bed/Lam Parting Thickness min 1.0 cm, max 20 cm, mode 5 cm. Composition ls w/ a few chert nodules. Sedimentary Structures planar lam. Hd22 Sample/Slab/Thin Section Description. (rep litho sample taken 0.5 m abu), fresh surface colour; lt olive-brown (10YR

6/3), sedimentary structures; low-amplitude stylolites, minor deformation, composition; 80% peloids to 100μm (composed of microspar), 20% f xyn spar. CL; non-luminescent except for bright orange-luminescent overgrowths on spar after gypsum xtals (3%). Rock Name: interbedded pelsparite and microsparite.
BASE OF UNIT 98.90 TOP OF UNIT 101.00 THICKNESS 2.10

UNIT H23. Rec covered interval.
BASE OF UNIT 101.00 TOP OF UNIT 115.65 THICKNESS 14.65

UNIT He24. Weathering Character semi-rec 3 m-wide outcrop. Colour WS & FS-buff. Basal Contact covered. Bedding Character hummocky (1 m wide, 10 cm high). Bed/Lam Thickness min 1 mm, max 5 mm, mode 2-3 mm. Composition dolostone. Misc well indurated.
BASE OF UNIT 115.65 TOP OF UNIT 115.95 THICKNESS 0.30

UNIT He25. Weathering Character prom 15 m-wide outcrop. Colour WS & FS-buff w/ white-weathering mottles. Basal Contact wavy abrupt. Bedding Character mottles are elongate parallel to bedding. Bed/Lam Parting Thickness min 10 cm, max 50 cm, mode 20 cm. Composition dolostone w/ approx 1% carb lams, 10% vugs. Sedimentary Structures 2-3 cm-sized mottles. Fossils approx 3-4% poorly preserved ossicles, orthoconic nautiloid in scree. Some vugs are brach moulds. Misc well indurated white concretions w/ brown rinds weather out throughout unit. Mottle size decreases from 3 cm to 1 cm upward in unit. He25 Sample/Slab/Thin Section Description (rep litho sample taken 10 m abu), fresh surface colour; wk vlt orangy yellow (2.5Y 7/2), sedimentary structures; stylolites com, composition; 25% ossicles, 5% spar, 25% chert w/ 15% porosity, high concentration of low-amplitude stylolites are accentuated by residue, 55% f-m xyn dolomite, 15% interxyn porosity. CL; a uniform dull orange-red luminescence. Rock Name: ossicle-rich f-m xyn dolostone. He25a Sample/Slab/Thin Section Description (taken of concretion), fresh surface colour; wk vlt orangy yellow (2.5 Y 7/2), sedimentary structures; tr vugs to 3 mm in size, low-amplitude stylolites are accentuated by dk brown residue, chert 'concretions', 5% ossicles to 3.7 mm in size, 1% ostracods preserved in chert, 1% spar (to 1 mm) fills vugs, tr pyrite xtals to 1 mm in size, 78% f-m xyn dolomite, 12% interxyn porosity, 3% vugs. CL; a uniform dull red luminescence. Rock Name: chert nodule/ ossicle-bearing f-m xyn dolostone.
BASE OF UNIT 115.95 TOP OF UNIT 160.05 THICKNESS 44.10

UNIT He26. Weathering Character prom, outcrop traceable laterally for hundreds of metres. Colour WS & FS-buff. Basal Contact abrupt planar. Bedding Character indistinct planar beds, thinly interbedded dk and lt. Bed/Lam Thickness dk beds min 0.2 cm, max 0.5 cm, pinch and swell over 5 cm, some are continuous. Lt beds are 1 cm thick and laterally continuous. Composition dolostone. Sedimentary Structures planar beds. Misc well indurated. He26 Sample/Slab/Thin Section Description (rep litho sample taken 2.0 m abu), fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; tr low-amplitude stylolites, rd mottles to 1.5 mm in diameter, composition; 1% articulated, thin, smooth-shelled ostracods are filled w/ clear m xyn dolomite, tr spar, 94% f xyn dolomite, 5% porosity. CL; a uniform dull red luminescence. Rock Name: f xyn dolostone.
BASE OF UNIT 160.05 TOP OF UNIT 163.25 THICKNESS 3.20

UNIT He27. Mottled as for He25. He27 Sample/Slab/Thin Section Description (taken 1.0 m abu), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; vugs to 3 mm in size, pyrite accumulations along low-amplitude stylolites, composition; 80% f-m xyn dolomite, 3% m xyn spar concentrated along stylolites, minor calcified dolomite where spar partly replaces clear vug-lining dolospar, 2% pyrite xtal accumulations, moulds of gypsum xtal laths to 3 mm long in pyrite, clear m xyn dolospar lines vugs, ghost(?) texture of gypsum(?) laths, 15% porosity. CL; a uniform dull orange-red luminescence. FLUOR; fluorescent-zoned spar and dolomite line vugs. Rock Name: sl sparry/sl pyritic f-m xyn dolostone.
BASE OF UNIT 163.25 TOP OF UNIT 168.70 THICKNESS 5.45

UNIT He28. Lam unit as for He26 but contains vugs.
BASE OF UNIT 168.70 TOP OF UNIT 173.65 THICKNESS 4.95

UNIT H29. Weathering Character prom, outcrop traceable laterally for hundreds of metres in buttress-like outcrops. Colour WS & FS-buff. Basal Contact abrupt planar. Bedding Character vague bedding defined by laterally discontinuous lt brown lams. Bed/Lam Parting Thickness max 45 cm, min 25 cm. Composition dolostone w/ 0.3-0.5 mm xtal size. Sedimentary Structures brach moulds. Fossils brach moulds (one w/ plications). Misc well indurated.
BASE OF UNIT 173.65 TOP OF UNIT 174.60 THICKNESS 0.95

UNIT He30. Weathering Character prom. Colour WS & FS-buff. Basal Contact abrupt planar. Bedding Character hummocky structures at base grade up into vague planar lams 0.5 m abu. Composition dolostone. Sedimentary Structures vague planar bedding w/ hummocky structures at base (0.5 m wavelength, 10 cm amplitude). Misc well indurated.
BASE OF UNIT 174.60 TOP OF UNIT 176.25 THICKNESS 1.65

UNIT He31. Rec covered interval.
BASE OF UNIT 176.25 TOP OF UNIT 177.40 THICKNESS 1.15

UNIT He32. Weathering Character semi-prom, outcrop traceable laterally for hundreds of metres along the coast. Colour WS & FS-buff. Basal Contact covered. Bedding Character vague planar bedding. Bed Parting Thickness min 2.0 cm, max 20 cm, mode 5 cm. Composition dolostone (0.3 to 0.5 mm xtal size). Sedimentary Structures vague planar bedding. Misc well indurated. He32 Sample/Slab/Thin Section Description (rep litho sample taken 0.35 m abu), fresh surface colour; wk vlt orangy yellow (2.5Y 7/2), sedimentary structures; vague planar lam, composition; 2% spar, 83% vf-f xyn dolomite, 15% interxyn porosity. CL; a uniform dull orange-red luminescent dolomite. Rock Name: vf-f xyn dolostone.
BASE OF UNIT 177.40 TOP OF UNIT 178.30 THICKNESS 0.90

UNIT He33. Mottled unit as for He25 except without concretions-c xyn dolostone. Fossils a few very poorly preserved tabular stromatoporoids.
BASE OF UNIT 178.30 TOP OF UNIT 180.15 THICKNESS 1.85

UNIT He34. Weathering Character prom, outcrop traceable laterally for hundreds of metres. Colour WS & FS-buff. Basal Contact trans over 25 cm. Bedding Character vague planar. Bed/Lam Parting Thickness min 5 cm, max 30 cm, mode 15 cm, irregular parting planes. Composition dolostone w/ <1% carb wisps, 0.5 mm modal xtal size. There is a zone of white concretions 3 m abu (5-10 cm long, 1 to 2 cm wide) and a zone of brach moulds 5 m abu. Sedimentary Structures vague planar to massive beds. Misc well indurated. He34 Sample/Slab/Thin Section Description (rep litho sample 1.0 m abu contains well-preserved brachs), fresh surface colour; wk vlt orangy yellow (2.5Y 7/2), sedimentary structures; tr vugs of articulated brach moulds to 6 mm in size, composition; tr ostracods to 3 mm in size, 20% m xyn spar w/ minor clear dolomite inclusions, 58% m xyn inclusion-rich dolomite is com leached (dissolved calcified dolomite?), 20% interxyn porosity, 2% vugs. CL; a uniform moderate orange-red luminescence. FLUOR; fluorescent dolomite and minor fluorescent-zoned dolomite. Rock Name: sparry m xyn dolostone.
BASE OF UNIT 180.15 TOP OF UNIT 187.90 THICKNESS 7.75

UNIT He35. Rec covered interval.
BASE OF UNIT 187.90 TOP OF UNIT 191.85 THICKNESS 3.95

UNIT He36. Weathering Character semi-prom, unit may be traced hundreds of metres laterally along the coast. Colour WS & FS-buff. Basal Contact covered. Bedding Character mottled to vague wispy bedding. Bed/Lam Parting Thickness min 10 cm, max 30 cm, mode 20

cm. Composition dolostone w/ 0.5-1.0 mm xtal size, 5% brach moulds. Sedimentary Structures wispy to mottled bedding. Fossils 5% ossicles. Misc well indurated.
BASE OF UNIT 191.85 TOP OF UNIT 197.90 THICKNESS 6.05

UNIT He37. Weathering Character semi-rec 1 m-wide outcrop. Colour WS & FS-buff. Basal Contact abrupt wavy. Bedding Character hummocky (1 m wavelength, 5 cm amplitude). Composition dolostone containing a nodular bluish black chert bed 10 cm wide and 2 cm thick.
BASE OF UNIT 197.90 TOP OF UNIT 198.50 THICKNESS 0.60

UNIT He38. Semi-prom mottled dolostone aa.
BASE OF UNIT 198.50 TOP OF UNIT 199.25 THICKNESS 0.75

UNIT He39. Semi-prom dolostone aa w/ hummocky structures.
BASE OF UNIT 199.25 TOP OF UNIT 199.45 THICKNESS 0.20

UNIT He40. Very mottled dolostone aa.
BASE OF UNIT 199.45 TOP OF UNIT 200.15 THICKNESS 0.70

UNIT He41. Massive buff dolostone w/ bluish black chert nodules. He41 Sample/Slab/Thin Section Description (rep litho sample w/ chert nodule), fresh surface colour; wk vlt orangy yellow (2.5Y 7/2), sedimentary structures; low-amplitude stylolites, composition; 5% smooth thin-shelled ostracods to 1 mm in size are preserved in chert nodules, many are articulated, tr ossicles, 5% interxyn spar, tr spar veinlets, tr m xyn pyrite, the chert nodule has approx 15% porosity and contains brown translucent organic(?) matter, 5% lt grey chert, 65% m xyn dolomite and 20% interxyn porosity. CL; a uniform dull orange-red luminescent dolomite. FLUOR; fluorescent dolomite. Rock Name: chert nodular/ostracodal m xyn dolostone.
BASE OF UNIT 200.15 TOP OF UNIT 200.85 THICKNESS 0.70

UNIT He42. Weathering Character prom. Colour WS & FS-buff. Basal Contact planar trans over 10 cm. Bedding Character vague planar lam. Bed Parting Thickness 4 beds, 30, 17, 8, and 15 cm thick, faintly lam. Composition dolostone w/ <1% laterally discontinuous carb lams, xtal size mode 0.3 mm, 10% vugs (8 mm modal size) (some brach moulds), good intergranular porosity. Sedimentary Structures vague, sl irregular planar lams. Fossils brach moulds. Misc well indurated, subvertical slickensides, sl bitumenous odour. He42 Sample/Slab/Thin Section Description (rep litho sample taken 10 cm abu), fresh surface colour; wk vlt orangy yellow (2.5Y 7/2), sedimentary structures; low-amplitude laterally continuous stylolites define lam, composition; tr ostracods, 5% m-c xyn spar in the interxyn space between dolomite xtals, 72% m xyn dolomite xtals have clear rims and inclusion-rich cores. 20% interxyn porosity, 3% vugs to 5 mm in size. CL; peloids luminesce a dull orange-red, cement between peloids is non-luminescent. FLUOR; fluorescent spar. Rock Name: sl sparry m xyn dolostone.
BASE OF UNIT 200.85 TOP OF UNIT 201.35 THICKNESS 0.50

The top of H42 is taken as the contact between units A and B of the upper member of the Cape Crauford Formation.

UNIT He43. Weathering Character this prom unit is traceable laterally for hundreds of metres along the coast. Colour WS-buff, FS-m brownish grey w/ dk bluish black chert. Basal Contact abrupt planar. Bedding Character mosaic to rubble breccia, uniform 4 cm clast size throughout unit. Composition breccia, base is 45% chert, 44% ls w/ 1% carb films. Fracture porosity is 10%. Chert clasts (max 9 cm, min 1 cm, mode 5 cm), ang, randomly oriented. Uppermost part is partly lam. Buff ls clasts-min 10, max 40 cm, ang, randomly oriented, some in place. Sedimentary Structures planar to wavy lam clasts. Misc chert nodules near upper contact. He43 Sample/Slab Description (chert clast taken from middle of unit), fresh surface colour; lt-m grey (2.5Y 6/0 to 2.5Y 5/0), sedimentary structures; darker grey band

near nodule, no bedding visible, some chalcedony lines vugs, composition; chert w/ 5% porosity. Rock Name: chert clast from breccia. BASE OF UNIT 201.35 TOP OF UNIT 202.55 THICKNESS 1.20

UNIT He44. Weathering Character prom. Colour WS & FS-buff. Basal Contact planar, abrupt. Bedding Character planar lam. Bed/Lam Thickness min 1 cm, max 4 cm, mode 2 cm. Composition dolomitic ls to ls. Sedimentary Structures planar lam.
BASE OF UNIT 202.55 TOP OF UNIT 202.75 THICKNESS 0.20

UNIT He45. Weathering Character prom outcrop aa. Colour WS & FS-m brownish grey. Basal Contact abrupt planar. Bedding Character planar bedded but fractured. Bed/Lam Parting Thickness min 2 cm, max 20 cm, mode 5 cm. Composition ls w/ bluish black chert nodules, 0.1 mm xtal size. Sedimentary Structures planar bedding, minor high-amplitude stylolites. Fossils tr colonial corals (2 cm wide), 1% stromatoporoids (1 cm thick, 5 cm wide), 1-2% ossicles. Misc some vague weathered-out columnar stylolites. He45 Sample/Slab/Thin Section Description (rep litho sample taken 0.5 m abu), fresh surface colour; wk lt olive-brown (10YR 6/2), minor low-amplitude stylolites are 'deflected' above and below stick bryozoan frags, composition; one bryozoan frag (3%) is 8 x 4 cm in size, one plicated brach frag is 6 mm thick, 1% articulated ostracods are up to 1 mm in size, 1% ossicles with syntaxial calcite overgrowths. 60% peloids w/ a 150μm size mode (composed of 10% micrite and 50% microspar), 25% f-m xyn clear spar between peloids, 5% vf xyn spar is concentrated along stylolites, dolomite replaces calcite, 5% porosity. CL; tr scattered blue-luminescent fluorite after dolomite, otherwise, peloids are dull orange-luminescent. FLUOR; 2% fluorescent scalenohedral spar as an isopachous cement around peloids. Rock Name: pelsparite. Sample H45a taken for conodonts.
BASE OF UNIT 202.75 TOP OF UNIT 204.25 THICKNESS 1.50

UNIT H46. Rec covered interval.
BASE OF UNIT 204.25 TOP OF UNIT 208.05 THICKNESS 3.80

UNIT Hf47. Weathering Character semi-rec. Colour WS-m grey w/ brown mottles, FS-m grey. Basal Contact covered. Bedding Character planar irregular. Bed/Lam Parting Thickness min 4 cm, max 10 cm, mode 7 cm. Composition ls w/ 1% carb lams, xtal size 0.2 mm. Misc well indurated. Hf47 Sample/Slab/Thin Section Description (rep litho sample taken 0.8 m abu), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; numerous low-amplitude stylolites, composition; superficial coated gns w/ articulated ostracods as nuclei are com, 67% mainly articulated ostracods w/ a mode of 0.2 to 0.4 mm (up to 4 mm), some have superficial coatings of radially disposed calcite blades, radial growth is also com within articulated ostracods. A few examples occur where both superficial outer coatings as well as inwardly directed radial growth is present, est 10% micrite and 20% microspar fills many articulated ostracods, 25% f-m xyn clear spar occurs mainly between ostracods, 5% f-m xyn dolomite rhombs w/ edges replaced by calcite, 3% porosity between xtals/gns and along or near stylolites. CL; 5% scattered bright orange-luminescent overgrowths on spar, dolomite luminesces a very dull orange-red, 5% scattered blue-luminescent fluorite after dolomite. FLUOR; scalenohedral fluorescent spar rims peloids (isopachous cement), spar filling space between peloids is non-fluorescent. Rock Name: sl dolomitic ostracodal biosparite.
BASE OF UNIT 208.05 TOP OF UNIT 210.40 THICKNESS 2.35

UNIT Hf48. Weathering Character semi-rec. Colour WS-buff, FS-lt brownish grey. Basal Contact half-covered. Bedding Character convex-up structures. Composition dolostone, xtal size 0.4 mm. Sedimentary Structures high concentration of low-amplitude stylolites, convex-up structures 5-6 cm wide and 5 mm high. Hf48 Sample/Slab/Thin Section Description (rep litho sample taken about 10 cm abu), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; convex-up structures (to 15 mm high), distance between structures is 5 cm, high concentration of low-amplitude stylolites, composition; 25% f-m xyn spar, 65% m xyn (100μm mode) dolomite com has clear rims and inclusion-rich

cores. Excellent examples of calcified dolomite where cores are replaced, 10% porosity between xtals and along/near stylolites, in places calcified dolomite has been dissolved. CL; 5% scattered bright orange-luminescent overgrowths on spar, dolomite luminesces a very dull orange-red. Rock Name: sparry f-m xyn dolostone.
BASE OF UNIT 210.40 TOP OF UNIT 211.00 THICKNESS 0.60

UNIT Hf49. Weathering Character semi-prom 2-3 m wide outcrop. Colour WS & FS-m brownish grey. Basal Contact abrupt planar. Bedding Character planar lam. Bed/Lam Thickness min 1 mm, max 1.5 cm. Composition dolostone (0.2 mm xtal size). Sedimentary Structures planar lam. Misc well indurated.
BASE OF UNIT 211.00 TOP OF UNIT 211.25 THICKNESS 0.25

UNIT Hf50. Weathering Character semi-prom. Colour WS-buff, FS-m brownish grey. Basal Contact planar to sl irregular. Bedding Character planar irregular. Bed/Lam Parting Thickness min 2 cm, max 10 cm, mode NA. Composition dolomitic ls, intraclasts w/ a 3 mm mode. Sedimentary Structures planar bedding. Fossils bioclastic. Hf50 Sample/Slab/Thin Section Description (rep litho sample taken at base), fresh surface colour; mottled wk vlt yellowish orange (10YR 7/2) (dolomitic ls) and wk m olive brown (10YR 5/2) (ls), sedimentary structures; low-amplitude stylolites and mottles, composition; 15% ostracods (4.5 mm modal size), 25% peloids (composed of microspar), 10% microspar between peloids, 5% f xyn spar, 40% m xyn dolomite (75μm modal xtal size), calcified dolomite com, 5% porosity along stylolites. CL; very dull orange-red luminescent dolomite, calcite is mainly non-luminescent. FLUOR; com. Rock Name: mottled dolomitic (m xyn) ostracodal biopelmicrosparite.
BASE OF UNIT 211.25 TOP OF UNIT 211.45 THICKNESS 0.20

UNIT Hf51. Weathering Character semi-prom. Colour WS & FS-m brownish grey. Basal Contact planar trans over 30 cm. Bedding Character mottled. Bed/Lam Parting Thickness min 4 cm, max 20 cm, mode 8 cm. Composition ls w/ 2 chert nodule horizons, one is 0.15 m abu, 2nd is 0.55 m abu. Black nodules weather white, mode 10 cm. Fossils 80% ostracods. Sedimentary Structures mottles, superficial coatings w/ ostracods as nuclei. Hf51 Sample/Slab/Thin Section Description (rep litho sample taken 1.0 m abu), fresh surface colour; wk m olive brown (10YR 5/2), sedimentary structures; low-amplitude stylolites, composition; 43% articulated ostracods to 2 mm in size are nuclei of coated gns. 5% micrite, 10% microspar, 20% f xyn spar, tr chert, 20% m xyn dolomite (mode 100μm), 2% along fractures and stylolites. CL; very dull orange-red luminescent calcite. FLUOR; fluorescent-zoned dolomite is com. Rock Name: dolomitic/sl micritic ostracodal (w/ superficial coatings) biomicrosparite.
BASE OF UNIT 211.45 TOP OF UNIT 212.75 THICKNESS 1.30

UNIT Hf52. Weathering Character semi-prom. Colour WS-buff, FS-lt to m brownish grey. Basal Contact abrupt wavy. Bedding Character wavy structures are defined by carb films, good parting. Composition calc dolostone w/ 0.2 mm xtal size, 1-2% carb lams, small wavy structures 5 cm wide and 5 mm high.
BASE OF UNIT 212.75 TOP OF UNIT 213.75 THICKNESS 1.00

UNIT Hf53. Weathering Character semi-prom. Colour WS & FS-buff. Bedding Character wispy irregular carb lams. Composition calc dolostone w/ minor carb lams.
BASE OF UNIT 213.75 TOP OF UNIT 213.95 THICKNESS 0.20

UNIT Hf54. Weathering Character semi-prom, outcrop traceable for hundreds of metres along coast. Colour WS & FS-buff. Basal Contact abrupt, planar. Bedding Character planar. Bed Parting Thickness mode 10 cm. Composition dolostone w/ a 0.2 mm xtal size. Sedimentary Structures planar bedding. Misc well indurated.
BASE OF UNIT 213.95 TOP OF UNIT 214.60 THICKNESS 0.65

UNIT Hf55. Weathering Character semi-prom. Colour WS & FS-buff. Basal Contact trans

over 10 cm. Bedding Character convex-up structures on various scales (4 cm wide and 1 cm high to 20 cm wide and 3 cm high), locally crackle breccia. Bed/Lam Parting Thickness min 2 cm, max 10 cm, mode 3 cm. Composition dolomitic ls. Misc less carb film than for previous unit. Hf55 Sample/Slab/Thin Section Description (rep litho sample taken 0.2 m abu), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; lam, sl brecciated, convex-up structures(?), composition; 84% f-m xyn dolomite (100μm modal size), xtals have inclusion-rich cores and clear rims, the inclusion-rich cores of the dolomite xtals are com replaced by calcite, 15% spar between dolomite xtals, 1% porosity along fractures. CL; uniform dull orange-red luminescent dolomite, calcite is non-luminescent except locally as vug-filling. Rock Name: sparry m xyn dolostone crackle breccia.
BASE OF UNIT 214.60 TOP OF UNIT 214.95 THICKNESS 0.35

UNIT Hf56. Weathering Character semi-prom. Colour WS & FS-dk brown. Basal Contact convex-up and wavy (20 cm wide and 3 cm high to 3 cm wide and 1 cm high). Bedding Character in part mottled. Composition dolomitic ls to ls. Sedimentary Structures in part bioturbated, 'worm(?) tubes' 2 mm in diameter, most are horizontal. Fossils orthoconic nautiloid (5 cm long by 1 cm across), stromatoporoids, 1% ossicles.
BASE OF UNIT 214.95 TOP OF UNIT 215.15 THICKNESS 0.20

UNIT Hf57. Weathering Character semi-prom 3-4 m sized outcrop. Colour WS & FS-buff. Basal Contact abrupt, irregular. Bedding Character vague planar lams. Bed Parting Thickness min 1 cm, max 4 cm, mode 2.5 cm. Composition calc dolostone, xtal size 0.30 mm, ls where fossiliferous. Sedimentary Structures vaguely planar lam. Fossils at base of unit there is a zone rich in *Atrypoidea*-like brachs as well as plicated brachs. Misc fissile. H57 Sample/Slab Description (brachs taken at base of unit), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; planar irregular lam, composition; 3% articulated brachs to 10 mm in size cf. *Atrypoidea*. Also included are plicated rhynchonellids up to 13 mm wide that have prom folds and sulcuses, 1% articulated ostracods to 2 mm in size, 1% ostracod frags, 25% microspar, tr spar fills ostracods, 70% f-m xyn dolomite. Rock Name: fossil-bearing microsparitic f-m xyn dolostone.
BASE OF UNIT 215.15 TOP OF UNIT 216.60 THICKNESS 1.45

UNIT Hf58. Weathering Character semi-rec, small (3-4 m wide) outcrop. Colour WS & FS-mottled buff & m brownish grey. Basal Contact abrupt planar. Bedding Character mottled. Bed Parting Thickness min 4 cm, max 5 cm, mode NA. Composition calc dolostone (0.1 mm xtal size). Sedimentary Structures low-angle cross-bed between stromatolites (stromatolites 30 cm wide and 10 cm high). Hf58 Sample/Slab/Thin Section Description fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; low-amplitude stylolites, composition; 1% brachs, 3% ossicles, tr *Catenipora* frags, 63% stromatoporoids, the porosity of which is filled w/ spar except near edges where dolomite is com, 50% f-m xyn dolomite, microspar/f xyn spar com replaces boundaries and cores of dolomite rhombs, 25% porosity is distributed as 23% porosity where stromatoporoids have been leached (in some cases vugs range to 15 mm in size) and 2% porosity along stylolites. CL; very dull orange-red luminescent dolomite except for rare blue-luminescent fluorite after dolomite, calcite is non-luminescent. FLUOR; fluorescent scalenohedral dolomite lines pores. Rock Name: vuggy sparry (f xyn) stromatoporoidal f-m xyn dolostone.
BASE OF UNIT 216.60 TOP OF UNIT 216.95 THICKNESS 0.35

UNIT Hf59. Weathering Character semi-rec. Colour WS & FS-m brownish grey. Basal Contact abrupt planar. Bedding Character hummocky structures. Bed Parting Thickness min 3 cm, max 15 cm, but NA for hummocky part. Composition calc dolostone w/ a 0.1 mm xtal size. Sedimentary Structures low-angle cross-bed(?) between hummocky structures (30 cm wide and 10 cm high).
BASE OF UNIT 216.95 TOP OF UNIT 217.35 THICKNESS 0.40

UNIT Hf60. Weathering Character semi-rec 3-4 m wide outcrop. Colour WS & FS-lt buff.

Basal Contact abrupt planar. Bedding Character vague planar bedding. Composition dolostone w/ chert nodules, xtal size <0.1 mm. Sedimentary Structures high-amplitude stylolites in basal 1 cm of unit. Hf60 Sample/Slab/Thin Section Description (rep litho sample), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; low-amplitude stylolites are accentuated by dk residue, composition; 3% spar, 82% f xyn dolomite (30μm modal size), xtals have inclusion-rich cores and clear rims, 15% interxyn porosity. CL; a moderate orange-red luminescence. FLUOR; fluorescent scalenohedra (isopachous cement) lines pores and stromatoporoids. Rock Name: f xyn dolostone.
BASE OF UNIT 217.35 TOP OF UNIT 217.45 THICKNESS 0.10

UNIT Hf61. Weathering Character semi-prom 15 m-wide outcrop. Colour WS & FS-buff. Basal Contact abrupt planar. Bedding Character wavy lams vary in thickness. Bed Parting Thickness lam thickness min 1 mm, max 6 mm, mode 3 mm. Composition dolostone w/ a 0.2 mm xtal size. Sedimentary Structures wavy dk and lt lams.
BASE OF UNIT 217.45 TOP OF UNIT 217.60 THICKNESS 0.15

UNIT Hf62. Weathering Character prom 15-20 m-wide outcrop. Colour WS & FS-mottled m brownish grey and dk brownish grey. Basal Contact abrupt planar. Bedding Character vaguely bedded. Bed Parting Thickness min 3 cm, max 20 cm, mode 7 cm. Composition fossiliferous ls w/ chert nodules, 5% vugs, some green malachite staining, <1% irregular carb beds. Sedimentary Structures vague bedding. Fossils 30% tabular stromatoporoids both in and out of place, mode 5 mm thick, 10 cm long, wavy. Plicated brachs. Hf62 Sample/Slab/Thin Section Description (rep litho sample w/ malachite(?) staining on surface), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; vugs to 1 cm in size in areas between stromatoporoids, composition; 30% stromatoporoids (in part dolomitized), most of the pore space is filled w/ f-m xyn spar, 5% plicated rhynchonellid brach frags, tr favositid coral frags, 10% spar in 'matrix' of dolomite between fossils, 5% chalcedony after calcite of stromatoporoid, tr pyrite, 20% f xyn dolomite (modal size 40μm) and 0.7 mm-sized xtals, calcified dolomite is very com as replaced cores of xtals and corroded rims, 10% patchy c-vc xyn dolomite to 1 cm, 5% vugs (dissolved stromatoporoids) to 1 cm, 15% interxyn porosity. CL; dull orange-red luminescent dolomite except for rare blue-luminescent fluorite after dolomite xtals, calcite is generally non-luminescent (except for minor vug-filling zoned calcite), chert luminesces a very dull green. Rock Name: stromatoporoidal (in part chalcedonic) sparry f xyn dolostone. Sample H62a taken of brachs.
BASE OF UNIT 217.60 TOP OF UNIT 218.85 THICKNESS 1.25

UNIT Hf63. Description as for Hf60 except that it is calc dolostone w/ considerable chert.
BASE OF UNIT 218.85 TOP OF UNIT 219.30 THICKNESS 0.45

UNIT Hf64. Weathering Character prom. Colour WS & FS-base lt brownish grey, top buff. Basal Contact abrupt planar. Bedding Character convex-up structures. Bed Parting Thickness min 1 cm, max 5 cm, mode 3 cm. Composition calc dolostone. Sedimentary Structures convex-up structures to 60 cm wide and 15 cm high throughout unit, weather out by stream.
BASE OF UNIT 219.30 TOP OF UNIT 220.15 THICKNESS 0.85

UNIT Hf65. Weathering Character semi-prom. Colour WS & FS-buff. Basal Contacts abrupt planar. Bedding Character vague planar lams. Bed/Lam Thickness mode 3 mm, laterally continuous. Bed Parting Thickness mode 2 cm. Composition dolomitic ls w/ a 0.2 mm xtal size. Sedimentary Structures planar lam.
BASE OF UNIT 220.15 TOP OF UNIT 220.45 THICKNESS 0.30

UNIT Hf66. Weathering Character prom, forms ledge. Colour WS & FS-mottled m brownish grey and m grey. Basal Contact abrupt planar. Bedding Character vague, irregular. Bed Parting Thickness irregular parting planes, min 1 cm, max 7 cm, mode 4 cm. Composition fossiliferous ls w/ <1% irregular carb films, 0.2 mm xtal size. Sedimentary Structures irregular bedding, carb films are laterally discontinuous. Fossils 20% tabular stromatoporoids,

mostly in place, 10 cm long and 0.5 cm wide. Hf66 Sample/Slab/Thin Section Description (rep litho sample at top of unit), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; low-amplitude stylolites, composition; 28% intraclasts composed of pelmicrite/ microspar, elongate rd intraclasts to 15 mm long, 25% brach frags, one articulated brach is 2 mm in size, tr favositid corals. 10% micrite, 7% microspar, 15% spar, 15% m xyn dolomite, calcite com replaces dolomite, 3% porosity along stylolites and fractures. CL; rare blue-luminescent fluorite after dolomite, dull orange-luminescent 'ghosts' of former dolomite(?) (now composite microspar), fossil frags are non-luminescent. FLUOR; minor white fluorescent scalenohedral calcite lines vugs. Rock Name: dolomitic/ micritic/ microsparitic brachiopodal intrasparite.
BASE OF UNIT 220.45 TOP OF UNIT 220.90 THICKNESS 0.45

UNIT Hf67. Weathering Character semi-prom. Colour WS & FS-m brownish grey. Basal Contact abrupt planar. Bedding Character planar lam, thin hummocky unit 1.15 m abu. Chert nodules com 1.3 m abu. Lams 'skirt' a chert nodule. Bed Parting Thickness min 10 cm, max 8 cm, mode 4 cm. Composition ls, black chert nodules-mode 7 cm long, 3 cm wide, thin brownish films on lams, 0.2 mm xtal size. Sedimentary Structures lams continuous laterally for several metres, hummocky structures 1.15 m abu are 5 cm wide and 2 cm high.
BASE OF UNIT 220.90 TOP OF UNIT 222.30 THICKNESS 1.40

UNIT Hf68. Rec covered interval.
BASE OF UNIT 222.30 TOP OF UNIT 223.15 THICKNESS 0.85

UNIT Hf69. Weathering Character semi-rec 1 m-wide outcrop. Colour WS-buff, FS-m brownish grey. Basal Contact covered. Bedding Character planar irregular. Bed Parting Thickness min 2 cm, max 5 cm, mode 3 cm. Composition dolomitic ls, wispy carb film forms parting. Sedimentary Structures planar irregular bedding, vugs, bioturbation (3 mm wide 'tubes'). Hf69 Sample/Slab/Thin Section Description (rep litho sample taken at the base), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; pervasive low-amplitude stylolites, composition; 15% brach frags, 25% spar, 10% m-c xyn spar fills irregular patches, 47% f xyn dolomite, vug-lining m xyn dolomite has clear rims and inclusion-rich cores, extensively calcified dolomite (replaced cores of dolomite rhombs), 3% porosity along stylolites. CL; dolomite is dull orange-luminescent except for 1% scattered blue-luminescent fluorite after dolomite, calcite is non-luminescent. FLUOR; dolomite is fluorescent, calcite is non-fluorescent. Rock Name: sparry brachiopodal f-m xyn dolostone.
BASE OF UNIT 223.15 TOP OF UNIT 223.50 THICKNESS 0.35

UNIT H70. Weathering Character semi-prom. Colour WS & FS-buff. Basal Contact abrupt planar. Bedding Character planar bedded. Composition dolostone w/ 0.2 mm xtal size. Sedimentary Structures planar bedded, bioturbation (3 mm wide 'tubes' at contact w/ overlying unit). Misc well indurated.
BASE OF UNIT 223.50 TOP OF UNIT 223.85 THICKNESS 0.35

UNIT Hf71. Weathering Character semi-prom. Colour WS & FS-m brownish grey. Basal Contact abrupt planar. Bedding Character indistinct, mottled. Bed/Parting Thickness mode 30 cm. Composition dolostone w/ 0.2 mm xtal size. Sedimentary Structures 3 mm-wide 'tubes'. Misc well indurated.
BASE OF UNIT 223.85 TOP OF UNIT 225.45 THICKNESS 1.60

UNIT Hf72. Weathering Character semi-rec. Colour WS & FS-m brownish grey, mottled. Basal Contact indet. Bedding Character mottled. Bed Parting Thickness min 2 cm, max 10 cm, mode 3 cm. Composition ls. Sedimentary Structures irregular bedding. Hf72 Sample/Slab/Thin Section Description (rep litho sample taken 0.75 m abu), fresh surface colour; mottled wk vlt yellowish-orange (10YR 7/2) and wk dk olive-brown (10YR 4/2), sedimentary structures; low-amplitude stylolites, convex-up structures as columnar stromatolites to 4 cm wide, are separated by about 3 cm, bioturbation (circular 'tubes' to 1.5 mm diameter) occur mainly in

areas between stromatolites. Stromatolites are composed of dolomitic/microsparitic f xyn sparite and have a clotted texture in thin section, mat'l between stromatolites consists of microsparitic/sparry f-m xyn dolomite, tr pyrite, 45% m xyn dolomite (75μm mode), calcified dolomite com, 1% porosity along stylolites. CL; dolomite luminesces dull orange-red and calcite is non-luminescent. FLUOR; fluorescent dolomite lines vugs, vug-filling dolomite is non-fluorescent. Rock Name: dolomitic/microsparitic f xyn sparite columnar stromatolites in a microsparitic sparry f xyn dolomite 'matrix'.
BASE OF UNIT 225.45 TOP OF UNIT 226.30 THICKNESS 0.85

UNIT Hf73. Weathering Character semi-rec. Basal Contact indet. Bedding Character planar lam. Bed Parting Thickness min 5 mm, max 40 mm, mode 15 mm. Composition calc dolostone (0.2 mm xtal size), <1% carb film on lams, black nodular chert horizon 1.25 m abu. Sedimentary Structures planar lam. Misc fissile. Hf73 Sample/Slab/Thin Section Description (rep litho sample taken 0.5 m abu), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; minor low-amplitude stylolites, 30% f xyn spar, m xyn dolomite xtals (150 μm mode) have clear rims and inclusion-rich cores, calcified dolomite is very com, 5% porosity along and near stylolites. CL; dolomite luminesces dull orange-red and calcite is non-luminescent. Rock Name: sparry m xyn dolostone.
BASE OF UNIT 226.30 TOP OF UNIT 228.05 THICKNESS 1.75

UNIT Hf74. Semi-rec mottled m brownish grey and buff dolomitic ls.
BASE OF UNIT 228.05 TOP OF UNIT 228.20 THICKNESS 0.15

UNIT Hf75. Buff dolostone as for Hf73, possibly hummocky at top. Bed Parting Thickness min 5 cm, max 30 cm, mode 15 cm.
BASE OF UNIT 228.20 TOP OF UNIT 230.40 THICKNESS 2.20

UNIT Hf76. Weathering Character prom, forms ledge of waterfall. Colour WS & FS-buff. Basal Contact trans over 20 cm. Bedding Character mottled. Bed Parting Thickness min 3 cm, max 35 cm, mode 15 cm. Composition dolostone w/ 0.5 mm xtal size, 20-25% vugs, tr blue to purple fluorite, irregular carb mat'l (<1%) dispersed through sample, irregularly-shaped vugs to 1 cm in size. Fossils bioturbation w/ small 3 mm wide 'tubes', a solitary coral (2 cm across and 3 cm long) and a poorly preserved colonial coral. Misc bitumenous odour. Mi76 Scree Sample/Slab/Thin Section Description fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; low-amplitude stylolites, composition; 15% intergrown c to vc purple fluorite xtals (to 1 mm in size) occur between 55% f-m xyn dolomite xtals (some of which are leached), 30% interxyn porosity. CL; bright blue and lt yellowish green luminescent fluorite, dolomite luminesces moderately orange-red. FLUOR; fluorescent fluorite. Rock Name: fluorite-bearing f-m xyn dolostone.
BASE OF UNIT 230.40 TOP OF UNIT 233.70 THICKNESS 3.30

UNIT Hf77. Weathering Character semi-rec. Colour WS & FS-lt buff. Basal Contact covered. Bedding Character vague planar lams to sl wavy. Bed Parting Thickness max 1 m, min 20 cm, mode 50 cm. Composition dolostone (0.2 mm xtal size). Sedimentary Structures vague planar to sl wavy lams. Misc well indurated, on other side of stream there is an anticline-syncline pair and a breccia pipe occurs 10 m to the south.
BASE OF UNIT 233.70 TOP OF UNIT 240.45 THCKNESS 6.75

UNIT Hf78. Weathering Character semi-prom. Colour WS & FS-m brown. Basal Contact covered. Bedding Character irregular. Bed Parting Thickness min 15 mm, max 150 mm, mode 60 mm. Composition dolomitic ls w/ minor carb mat'l, minor black chert nodules (4 by 2 cm). Sedimentary Structures irregular bedding. Fossils tr poorly preserved solitary and colonial corals. Misc fractured, bitumenous odour, unit overlies a breccia pipe. Hf78 Sample/Slab/Thin Section Description fresh surface colour; wk m olive brown (10YR 5/2), sedimentary structures; high concentration of low-amplitude stylolites, composition; one solitary coral (1%) (22 mm diameter calyx), 3% ostracods to 0.5 mm in size and ostracod

frags, 1% ossicles, 1% brach moulds, 20% well preserved charophyte oogonia or (more likely) dasyclad algae to 2 mm long and 1 mm in diameter. 20% micrite and 29% microspar in a clotted texture, 10% spar, tr chert, 1% randomly distributed f xyn dolomite xtals, 5% porosity along stylolites and between xtals/gns. CL; a moderate orange-red luminescent 'matrix' between non-luminescent fossil frags, tr blue-luminescent fluorite after dolomite. Rock Name: micritic/sparry algal-rich biomicrosparite.
BASE OF UNIT 240.45 TOP OF UNIT 242.05 THICKNESS 1.60

K. FIELD AND SAMPLE DESCRIPTIONS FOR SECTION I, MEASURED IN 1983.

Locality: 3.8 km west of Stanley Point Base Camp which is at latitude 73°49'03"N, longitude 85°32'W.
Latitude: 73°49'52"N.
Longitude: 85°39'00"W.

Section I occurs entirely in member B of the Baillarge Formation.
The top of unit I2 is taken as equivalent to the top of unit K2.

UNIT I1. Rec covered interval.
BASE OF UNIT 0.00 TOP OF UNIT 4.00 THICNESS 4.00

UNIT Ia2. Weathering Character prom unit is traceable for hundreds of metres along the coast. Good bedding plane surfaces along creek walls, 20 m abu the unit weathers lt grey and mottles are less distinct, 22 m abu bedding becomes irregular. Colour WS & FS-mottled m brown. Basal Contact covered. Bedding Character mottles are elongate subparallel to bedding. Composition ls w/ <0.1 mm xtal size, 1% carb films. Sedimentary Structures mottles, stylolites form the boundary of a favositid coral (up to 2 cm of the coral may have dissolved). Fossils 1% ossicles, <1% brachs, favositid corals. Numerous thick-shelled brachs to 4 cm in size (30%) occur 13.5 m abu (sampled)-10% in place brachs w/ valves to 5 mm thick were found 27.0 m abu. A 10 cm-sized stromatoporoid occurs on a bedding plane surface. 1% favositid corals (13.5-18.5 m abu) are 2-20 cm in size and are both upright and overturned. Tr solitary corals (several collected w/ a 5 cm diameter), orthoconic nautiloids, stromatoporoids and brachs. Between 21 & 27.8 m abu there are well-preserved stromatoporoids that constitute approx 3-4% of the unit, most are in place but some are overturned. chain corals 28.5 m abu. Misc bitumenous odour, well developed pattern of subvertical joint surfaces. Some very minor orange-weathering mineralization (pyrite?) 27 m abu along joints. Ia2 Sample/Slab Description (taken 12-13.5 m abu), fresh surface colour; vdk olive brown (10YR 3/3), sedimentary structures; wispy mottles, minor high-amplitude stylolites, fossils; 10% ostracod frags and 1% articulated ostracods to 1 mm in size, 1% ossicles, tr plicated brach frags, one solitary coral (5 cm diameter calyx w/ at least 40 septa). 73% microspar, 5% spar, 5% f xyn dolomite is concentrated along/near wispy stylolites, 5% interxyn porosity especially near stylolites. Rock Name: sl sparry/sl dolomitic ostracodal biomicrosparite. Ia2a Sample/Slab/Thin Section Description (taken 12-13.5 m abu), fresh surface colour; wk vdk olive brown (10YR 3/2), sedimentary structures; low-amplitude stylolites, composition; 3% algal frags (some branching), 1% ossicles, 1% brach frags, 5% articulated ostracods to 1.8 mm in size, 15% ostracod frags, 1 solitary coral (9 cm long w/ a 43 mm diameter calyx), has about 50 major and 50 minor septa. 30% peloids (composed of microspar) have a 50μm mode. 26% microspar, 5% spar fills fractures, 5% clear spar fills articulated ostracods, tr pyrite, 1% bitumen along stylolites, 6% f xyn dolomite (50 μm mode) near stylolites, minor calcified dolomite. 2% porosity along stylolites. CL; dull red-luminescent dolomite except for rare blue-luminescent fluorite after dolomite. Calcite, including fossils is non-luminescent. FLUOR; fluorescent scalenohedral vug-lining isopachous spar cement, vug-filling spar is not fluorescent. Rock Name: dolomitic sl sparry ostracodal biopelmicrosparite. Ia2b Sample/Slab Description (taken 12-13.5 m abu), fresh surface

colour; wk vdk olive brown (10YR 3/2), sedimentary structures; low-amplitude stylolites accentuated by bitumen, composition; 1% pentamerid brachs to 4 cm in size, valve microstructure consists of calcite prisms at right angles to valve boundaries, 3% ossicles, tr articulated ostracods to 1.5 mm, tr solitary corals (35 mm diameter calyx) to 80 mm long. 66% microspar, 5% spar, 1% bitumen occurs along stylolites and fills pores, tr pyrite, tr white chert replaces shell frags. 20% f xyn dolomite is concentrated along and near stylolites. 5% porosity near stylolites. Rock Name: mottled sl sparry/dolomitic fossil-bearing microsparite. Ia2c Sample/Slab Description (taken 12-13.5 m abu), fresh surface colour; wk dk olive brown (10YR 4/2), sedimentary structures; low-amplitude stylolites, composition; 10% plicated pentamerid brachs to 45 mm in size (valves to 10 mm thick), tr thin-valved plicated brachs, 3% ostracods to 1.5 mm, tr ossicles to 2 mm in size have pentagonally star-shaped axial canals. 56% microspar. 10% spar fills ostracods and fractures. 1% bitumen along stylolites, tr pyrite, 15% f xyn dolomite occurs mainly along/near stylolites. 5% porosity along stylolites. Rock Name: dolomitic/sparry brachiopodal biomicrosparite. I2d Sample/Slab Description (taken 17.3 m abu), fresh surface colour; wk vdk olive brown (10YR 3/2), sedimentary structures; minor low-amplitude stylolites, composition; 10% phaceloid or possibly dendroid corals, calices to 3.2 mm in diameter, 1 solitary coral w/ 13 mm diameter calyx, 1% ossicles, 15% ostracods and ostracod frags, 5% tabular stromatoporoids. 55% microspar, 10% spar fills ostracods and fractures, tr pyrite, tr bitumen in pores, 15% dolomite (30μm modal xtal size). 5% porosity. Rock Name: dolomitic/ostracodal/sparry biomicrosparite. Ia2e Sample/Slab Description (taken about 17 m abu), fresh surface colour; wk vdk olive brown (10YR 3/2) and minor wk vlt yellowish orange (10YR 7/2), sedimentary structures; vugs to 15 mm in size are lined w/ vc xyn spar, lt buff chertified mottles, minor high-amplitude stylolites, minor subvertical spar-filled fractures, composition; solitary corals (calices to 24 mm in diameter and 40 mm long), tr ossicles and gastropods, 5% articulated ostracods to 3 mm max size (some w/ geopetal spar-over-microspar fabric), 10% ostracod frags, tr colonial corals. 10% spar fills fractures, 1% irregular white chert blebs are bounded by stylolites, tr m xyn pyrite is preferentially concentrated in chert blebs, 25% f xyn dolomite occurs near stylolites and is concentrated in mottles and in stylolite-bounded subvertical fracture zones. Rock Name: mottled dolomitic/sparry ostracodal biomicrosparite. Ia2e Sample/Slab Description of Phaceloid Coral (taken about 17 m abu), sedimentary structures; minor low-amplitude stylolites, composition; one phaceloid coral resembles *Syringopora* (has stolons), 50% of sample is coral, spar fills corallites. 20% microspar, 15% spar, tr bitumen along stylolites, 5% white chert replaces parts of corallites, 10% f xyn dolomite is concentrated between corallites in parts of the sample. 5% interxyn porosity. Rock Name: sl cherty dolomitic/sparry coralline biomicrosparite. Sample Ia2f taken for conodonts.
BASE OF UNIT 4.00 TOP OF UNIT 33.25 THICKNESS 29.25

UNIT I3. Rec covered interval.
BASE OF UNIT 33.25 TOP OF UNIT 42.25 THICKNESS 9.00

UNIT Ib4. Weathering Character semi-prom, semi-covered 4 m-wide outcrop. Colour WS & FS-mottled m brown. Basal Contact covered. Bedding Character mottled, contorted strata. Composition dolomitic ls. Sedimentary Structures mottles. Fossils bun-shaped randomly-oriented 10 cm-wide stromatoporoids, brach frags, tr colonial corals, one solitary coral.
BASE OF UNIT 42.25 TOP OF UNIT 45.70 THICKNESS 3.45

UNIT Ib5. Rec covered interval.
BASE OF UNIT 45.70 TOP OF UNIT 53.35 THICKNESS 7.65

UNIT Ib6. Weathering Character semi-prom 150 m wide outcrop. Colour WS & FS-lt brown. Basal Contact covered. Bedding Character planar lams are defined by carb film. Bed/Lam Thickness min 1 cm, max 11 cm, mode 4 cm. Bed Parting Thickness min 10 cm, max 60 cm, mode 20 cm. Composition vf xyn dolostone w/ <1% carb films. Sedimentary Structures planar lams, high-amplitude stylolites, hummocky structures 2 m abu. Fossils 2-3% ossicles,

echinoderm stems to 5 cm long and 1-2 mm wide, tr brachs, carb lams may represent cryptalgal lam. Misc outcrop is a syncline/anticline pair. Ib6 Sample/Slab/Thin Section Description (rep litho sample w/ echinoderm stems 1 m abu), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; minor low-amplitude stylolites, composition; tr echnoderm stems to 5 mm long, 5% ossicles to 0.5 mm. 5% microspar, tr f xyn spar, 85% aphanoxyn/vf xyn dolomite (5-10μm) xtal size, 5% interxyn porosity. CL; non-luminescent except for rare bright orange-luminescent subvertical veinlets. Rock Name: ossicle-bearing aphanoxyn/vf xyn dolostone.
BASE OF UNIT 53.35 TOP OF UNIT 56.65 THICKNESS 3.30

UNIT Ib7. Weathering Character semi-prom 150 m-wide outcrop. Colour WS & FS-m brown. Basal Contact abrupt planar (folded). Bedding Character planar. Bed Parting Thickness min 3 cm, max 15 cm, mode NA. Composition ls w/ <0.1 mm xtal size. Sedimentary Structures high-amplitude stylolites, planar bedding. Fossils occasional ossicles. Ib7 Sample/Slab/Thin Section Description (rep lith sample taken 0.30 m abu), fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; minor high-amplitude (1 mm) stylolites w/ thick residue, composition; tr ostracods to 0.3 mm, tr ossicles, 10% sponge spicules(?), 35% peloids (composed of 10% micrite and 25% microspar) w/ a 200μ mode. 10% micrite, 10% microspar, 10% spar occurs between 'peloids', 25% randomly dispersed f xyn dolomite (50μm mode), com calcified dolomite as composite microspar, a few dolomite rhombs are entirely replaced w/ clear composite microspar. Tr porosity. CL; dolomite luminesces a very dull orange-red except for 1% blue-luminescent fluorite after dolomite (preferentially in ossicles), calcite is non-luminescent. Rock Name: dolomitic pelmicrosparite.
BASE OF UNIT 56.65 TOP OF UNIT 57.35 THICKNESS 0.70

UNIT Ib8. Weathering Character semi-prom 150 m wide outcrop. Colour WS & FS-lt brown. Basal Contact abrupt planar (folded). Bedding Character very vague planar lams. Bed Parting Thickness variable, 15-65 cm thick. Composition dolostone w/ 0.2 mm xtal size, tr vugs. Sedimentary Structures very vague planar lams. Misc well indurated. Ib8 Sample/Slab/Thin Section Description (rep litho sample taken at base of unit), fresh surface colour; wk lt olive brown (10YR 6/2), sedimentary structures; 5% spar and dolomite-filled vugs (to 5 mm in size), composition; 1% ostracods to 0.5 mm, spar lines inside of articulated ostracods, clear f xyn dolomite fills centers, 64% peloids (50μm mode, composed of 15% aphanoxyn and vf xyn dolomite), 5% very c xyn spar fills vugs to 5 mm in size, 15% f-m xyn spar fills interpeloid porosity, 5% clear dolomite lines spar-filled vugs. 10% interpeloid porosity. CL; non-luminescent except for rare bright orange-luminescent spar (pore-fillings?). FLUOR; fluorescent-zoned vug-filling spar. Rock Name: sparry peloidal aphano/vf xyn dolostone.
BASE OF UNIT 57.35 TOP OF UNIT 58.00 THICKNESS 0.65

L. FIELD AND SAMPLE DESCRIPTIONS FOR SECTION J, STANLEY POINT, MEASURED IN 1983.

Locality: 19 km west of Stanley Point.
Latitude: 73°50'00"N.
Longitude: 85°42'00"W.

The base of the section starts in member B of the Baillarge Formation.
The base camp is 350 m south of Lancaster Sound and 25 m asl.

UNIT J1. Rec covered interval, sealevel is taken as 0.00 m in section J. Sample ScJ of large coiled nautiloid in scree near sealevel.
BASE OF UNIT 0.00 TOP OF UNIT 138.40 THICKNESS 138.40

UNIT J2. Weathering Character prom outcrop approx 50 m wide. Colour WS-m brown w/ limonitic staining. FS-m brown, mottled. Basal Contact covered. Bedding Character mottled to wispy lam. Bed Parting Thickness mode is 3 cm except in the upper 2 m where it is 5 cm. Composition sparsely fossiliferous ls w/ <0.1 mm xtal size (microspar?). 1% carb/bitumenous mat'l, tr vuggy porosity in gastropods. Sedimentary Structures wispy bedded, becomes mottled in upper 2 m. Fossils 1% gastropods on some bedding planes, <1% ossicles, <1% 1 cm-sized thin-shelled brachs. Misc bitumenous odour. J2 Sample/Slab/Thin Section Description (rep litho sample taken 5 m abu), fresh surface colour; mottled wk dk olive-brown (10YR 4/2) and wk xdk olive-brown (10YR 2/2), sedimentary structures; low-amplitude stylolites, dolomitic mottles, composition; 1% ostracods to 0.6 mm in size, 1% brach frags, tr ossicles. 10% micrite, 40% microspar, 5% spar (to vc xyn) fills fractures, 2% chalcedony partly replaces brach valves, 2% bitumen is concentrated along stylolites, between xtals in dolomitic mottles and in spar-lined fractures. 35% f xyn dolomite (50μm mode), minor calcified dolomite in the form of composite microspar in rare instances replaces cores of dolomite rhombs. 5% porosity along stylolites and between xtals/gns. CL; very dull orange-red luminescent fluorite after dolomite except for 4% blue-luminescent dolomite, microspar is non-luminescent. Rock Name: mottled sl sparry/sl bitumenous dolomitic microsparite. J2a Sample/Slab Description (rep litho sample taken at top of unit), fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; low-amplitude stylolites, irregular dolomitic mottles to 2 cm in size, 5% 1 mm-sized 'tubes', composition; 1% articulated ostracods to 3.5 mm, 2% ostracod frags, 45% peloids composed of 10% micrite and 35% microspar. 20% microspar between peloids. 1% spar fills fractures and articulated ostracods. 1% bitumen occurs along stylolites and in dolomitic mottles. 25% f xyn dolomite is concentrated in cm-sized mottles and 1 mm-sized 'tubes'. 5% porosity along and near stylolites and in dolomitic mottles. Rock Name: mottled dolomitic pelmicrosparite.
BASE OF UNIT 138.40 TOP OF UNIT 153.75 THICKNESS 15.35

UNIT J3. Rec covered interval.
BASE OF UNIT 153.75 TOP OF UNIT 178.25 THICKNESS 24.50

UNIT J4. Rec covered interval, moved laterally from outcrop A to B.
BASE OF UNIT 178.25 TOP OF UNIT 181.25 THICKNESS 3.00

UNIT J5. Weathering Character A most prom ledge-former, unit is traceable for kilometres along the coast. Colour WS-mottled m brown w/ irregular limonitic weathering patches. FS-m brown. Basal Contact covered. Bedding Character mottled. Bed Parting Thickness min 10 cm, max 2 m, mode 1 m, mode 5-10 cm between 53.25-54.75 m abu. Composition very f xyn ls w/ carb mat'l or tr bitumen. Sedimentary Structures high-amplitude stylolites, mottle size is 3 cm 33.75 m abu, becomes more distinctly mottled and grades to dolomitic ls upsection. Fossils 1-2% favositid corals, mostly in place, some overturned, max 1 m x 20 cm, min 6 x 3 cm, mode 20 x 4 cm. Large in place colonial corals, small ones are overturned, 1% bun to tabular shaped stromatoporoids, irregular and regrown, overturned and in place examples, avg 25 cm wide, 1-2% ossicles and echinoderm stems to 1 cm long, 1% or less solitary corals, in and out of place, tr gastropods, tr brachs, tr orthoconic nautiloids, 40.75 m abu-orthoconic nautiloid 10 cm long & 3 cm wide, 45.75 m abu-orthocone frag-60% buff mottles, 47.25 m abu-chain coral 6 cm in size w/ 2 mm wide corallites, 57.25-58.75 m abu-5% articulated brachs 1 cm in size. Misc bitumenous odour, bitumen fills corals 5.50 m abu. Sample J5-conodont sample taken from the basal 3.75 m of the unit. J5a Sample/Slab/Thin Section Description (rep litho sample taken 3.75 m abu), fresh surface colour; mainly wk vdk olive-brown (10YR 3/2) w/ wk lt olive-brown (10YR 6/2) stromatoporoids, sedimentary structures; cm-sized irregularly-shaped mottles skirt stromatoporoids, low-amplitude stylolites are accentuated w/ bitumen, minor high-amplitude stylolites, stylolites form the boundaries of dolomitic mottles, composition; 3% articulated ostracods to 4.5 mm in diameter, 7% ostracod frags, one solitary coral w/ 8 mm diameter calyx, coral walls are partly silicified, 30% tabular and spheroidal well-preserved stromatoporoids, white silica in part replaces brach frags, 2% favositid coral frags. 19% microspar and 5% spar fills corallites and fractures. 1% bitumen is concentrated

along stylolites and in interxyn pores in dolomitic mottles, subvertical fractures terminate above and below at stylolites, minor c xyn spar occurs along fractures where stromatoporoid is recrystallized, 30% f-m xyn dolomite is concentrated in cm-sized irregularly-shaped dolomitic mottles, minor calcified dolomite (clear microspar 'inclusions'). 3% porosity along stylolites and subvertical fractures. CL; very dull orange-red luminescent dolomite, calcite is non-luminescent. FLUOR; fluorescent scalenohedral spar lines pores. Rock Name: mottled dolomitic stromatoporoidal biomicrosparite crackle breccia. J5b Sample/Slab Description (regrown stromatoporoid taken 16.3 m abu), fresh surface colour; wk vlt yellowish orange (10YR 7/2) and wk vdk olive brown (10YR 3/2), sedimentary structures; 30% cm-sized dolomitic mottles, composition; 1% ossicles w/ 5-point star-shaped axial canals, tr stems to 2 mm long, 10% ostracod frags, 3% articulated ostracods to 2 mm long, tr plicated brach frags, tr well-preserved solitary coral w/ 0.8 mm diameter calyx, tr *Catenipora* frag, 5% stromatoporoid 52 mm in size (spheroidal 'nucleus' w/ pronounced overgrowth on one side). 31% microspar, 5% spar, 25% m xyn dolomite in mottles and along stylolites/fractures. 20% porosity along stylolites/fractures and especially between xtals/gns in the dolomitic mottles. Rock Name: mottled dolomitic/sl sparry/ostracodal biomicrosparite. J5c Sample Description (colonial coral taken 39.75 m abu), fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; dolomitic mottles, composition; one favositid coral to 90 mm in size, corallites to 1.5 mm in size, tr ossicles to 4 mm in diameter. Rock Name: dolomitic mottled ls contains a favositid coral.
BASE OF UNIT 181.25 TOP OF UNIT 240.00 THICKNESS 58.75

The top of J5 is taken as the contact between the Baillarge and Cape Crauford formations.

UNIT J6. Rec covered interval.
BASE OF UNIT 240.00 TOP OF UNIT 246.25 THICKNESS 6.25

UNIT J7. Weathering Character semi-prom 5 m-wide outcrop. Colour WS-lt buff, FS-vlt buff. Basal Contact covered. Bedding Character vague lams. Composition dolostone. Sedimentary Structures vague lams. Misc open fold 1 m wide w/ 5 cm amplitude. J7 Sample/Slab/Thin Section Description (rep litho sample), fresh surface colour; wk lt olive-brown (10YR 6/2), composition; 35% microspar, 50% f xyn dolomite, minor calcified dolomite. 15% porosity. CL; dolomite luminesces very dull orange-red, calcite is non-luminescent. Rock Name: microsparitic f xyn dolostone.
BASE OF UNIT 246.25 TOP OF UNIT 246.65 THICKNESS 0.40

UNIT J8. Weathering Character prom. Colour WS-interbedded/interlam lt buff to m gy, irregular yellowish-orange limonitic stain on bedding plane surfaces. FS-aa but no orange stain. Basal Contact abrupt (truncates lams in unit Jb7, sl irregular). Bedding Character planar, laterally continuous except where deformed, locally mosaic to rubble breccia. Bed Parting Thickness min 1 cm, max 30 cm, mode 5 cm. Bed/Lam Thickness interlam part of unit has a 5 mm mode. Composition ls, very powdery, tr carb film. Sedimentary Structures lam, locally brecciated w/ tension gashes. Misc entire unit is deformed & fractured.
BASE OF UNIT 246.65 TOP OF UNIT 247.85 THICKNESS 1.20

UNIT J9. Weathering Character prom unit is traceable for hundreds of metres. Colour WS & FS-buff. Basal Contact abrupt planar. Bedding Character vaguely lam. Bed Parting Thickness min 4 cm, max 25 cm, mode 8 cm. Bed/Lam Thickness vague 5 mm lam mode. Composition calc dolostone w/ <0.1 mm xtal size. Sedimentary Structures vague lam. Misc well indurated, very homogeneous throughout.
BASE OF UNIT 247.85 TOP OF UNIT 248.60 THICKNESS 0.75

UNIT J10. Weathering Character prom unit is traceable for kilometres along the coast. Colour WS-m brown w/ rusty yellow irregular mottles. FS-m brown w/ black residue (as a film) on bedding surfaces. Basal Contact trans over 25 cm, from planar to irregular bedding. Bedding Character vaguely bedded, becomes mottled 25 cm abu. Bed Parting Thickness min 2 cm, max

3 cm. Composition dolomitic ls w/ irregular carb(?) films, xtal size <0.05 mm. Sedimentary Structures vaguely lam at base, mottled.
BASE OF UNIT 248.60 TOP OF UNIT 253.25 THICKNESS 4.65

UNIT J11. Weathering Character prom, outcrop is 3-4 m wide and semi-covered. Colour WS-m brown, FS-m to dk brown. Basal Contact indet. Bedding Character vague bedding. Bed Parting Thickness max 30 cm, min 4 cm, mode 10 cm. Composition very sl calc dolostone is trans to calc dolostone at top of unit, <50μm xtal size. Sedimentary Structures vague planar bedding. Misc well indurated.
BASE OF UNIT 253.25 TOP OF UNIT 256.55 THICKNESS 3.30

UNIT J12. Weathering Character prom, outcrop traceable for kilometres in coastal cliff exposures. Cavernous weathering. Colour WS & FS-variably m brown and rusty yellow. Basal Contact trans over 2 m. Bedding Character lam where visible. Bed Parting Thickness min 1 cm, max 4 cm, mode 1.5 cm. Composition dolomitic ls w/ <50μm xtal size. Sedimentary Structures planar lam. Fossils solitary corals (collected) 2.0 m abu as well as a favositid coral 2.15 m abu. J12 Sample/Slab/Thin Section Description (taken of solitary corals 2.0 m abu), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; high concentration of low-amplitude stylolites, composition; 5% solitary corals to 12 mm in diameter, 10% brach frags and possibly ostracod valve frags, 1% articulated ostracods to 1 mm in size, 2% ossicles, one unidentified spiral-like organism (0.8 mm long by 0.1 mm wide). 55% peloids (composed of 10% micrite and 45% microspar). 15% microspar between peloids, 5% f-c xyn spar veinlets cross-cut and displace stylolites, The highest concentration of spar occurs where the distance between stylolites is a minimum. 2% chert replaces fossil frags, tr pyrite, 5% porosity along stylolites and subvertical fractures. CL; non-luminescent except for a complex-zoned spar filling a subvertical fracture lined with non-luminescent spar. FLUOR; vug-lining scalenohedral spar (isopachous cement), vug-filling spar is zoned. Rock Name: sl sparry/fossiliferous pelmicrosparite.
BASE OF UNIT 256.55 TOP OF UNIT 262.30 THICKNESS 5.75

UNIT J13. Rec covered interval.
BASE OF UNIT 262.30 TOP OF UNIT 268.80 THICKNESS 6.50

UNIT J14. Weathering Character semi-rec, outcrop is 5 m wide and partly covered w/ talus. Colour WS-variable rusty brown, FS-m brown. Basal Contact covered. Composition breccia, 75% 'clasts', 10% 'matrix', 15% mainly fracture porosity. Clast composition-dolostone to calc dolostone, clast size-min 3 mm, max 1 m, mode 10 cm, ang to sbang clasts, orientation indet. Sedimentary Structures subvertical high-amplitude columnar stylolites define a lineation plunging 70° and trending in various directions. Misc fractured.
BASE OF UNIT 268.80 TOP OF UNIT 270.30 THICKNESS 1.50

UNIT J15. Rec covered interval.
BASE OF UNIT 270.30 TOP OF UNIT 271.55 THICKNESS 1.25

UNIT J16. Weathering Character semi-rec, semi-covered 2 m-wide outcrop. Colour WS & FS-m brown. Basal Contact covered. Composition dolomitic ls.
BASE OF UNIT 271.55 TOP OF UNIT 272.30 THICKNESS 0.75

UNIT J17. Rec covered interval.
BASE OF UNIT 272.30 TOP OF UNIT 286.65 THICKNESS 14.35

UNIT J18. Weathering Character prom unit is traceable for kilometres along the coast. Colour WS & FS-lt brown. Basal Contact covered. Bedding Character planar bedded, in part convex-up structures (to 40 cm wide and 10 cm high). Bed Parting Thickness mode 1.0 m. Composition dolostone, rd intraclasts, locally dolomitized crackle to mosaic breccia (1-2 cm clast size). Sedimentary Structures planar bedding, in part convex-up structures (to 40 cm

wide and 10 cm high), locally brecciated. Misc dip is gently north. J18 Sample/Slab/Thin Section Description (rep litho sample taken 0.75 m abu), fresh surface colour; wk vlt yellowish orange (10YR 7/2), composition; 10% disarticulated brach frags to 4 mm in size, 3% f xyn spar, 59% f-m xyn dolomite xtals, most of which are lath-shaped, 75μm mode, calcified dolomite is com in spar-filled areas. 25% vugs to 1 mm in size, 3% fracture porosity. CL; dull orange-red luminescent spar w/ minor small patchy areas of bright orange-luminescent spar. Rock Name: vuggy/sl sparry brachiopodal f-m xyn dolostone.
BASE OF UNIT 286.65 TOP OF UNIT 288.35 THICKNESS 1.70

UNIT J19. Weathering Character prom unit is traceable for kilometres along the coast. Colour WS & FS-m brown. Basal Contact truncates lower unit by brecciation. Bedding Character locally brecciated, otherwise planar lam. Bed/Lam Thickness min 5 mm, max 15 mm. Composition dolomitic ls, locally brecciated, xtal size <0.05 mm, 10% fracture porosity. Sedimentary Structures planar lam, locally fractured to brecciated. Fossils tr small colonial corals. Misc may be near breccia pipe because of deformation. Sample J19 taken for conodonts.
BASE OF UNIT 288.35 TOP OF UNIT 290.45 THICKNESS 2.10

UNIT J20. Weathering Character prom, outcrop traceable for kilometres along the coast. Colour WS-variable m brown to buff w/ rusty patches. FS-buff. Basal Contact deformed, irregular as for previous unit. Bedding Character planar lam, locally brecciated. Bed/Lam Thickness 3 mm mode. Composition dolostone, locally brecciated. Sedimentary Structures planar lam, locally brecciated. Misc structurally deformed, brecciated w/ minor folds, good fissility due to bedding plane slip. There is considerable fracturing at the edge of the breccia pipe.
BASE OF UNIT 290.45 TOP OF UNIT 293.55 THICKNESS 3.10

UNIT J21. Weathering Character prom. Colour WS-mottled m brown w/ rusty staining on joint surfaces. FS-mottled m brown. Basal Contact abrupt planar (deformed into irregular contact over 40 m). Bedding Character mottled crackle breccia. Bed/Parting Thickness mode 3 m, between 9.45 & 12.45 m abu parting thickness is as follows; min 3 cm, max 3 m, mode 20 cm. Composition sparsely fossiliferous dolomitic ls, f disseminated ferruginous mat'l stains rock. Sedimentary Structures 60% dk, 40% lt mottles (2 cm modal size) are elongate parallel to bedding, vugs to 3 cm. Fossils 0.5% stromatoporoids, 1-2% ossicles, 1 cm long echinoderm stem, orthoconic nautiloid 4 m abu, solitary coral, high-spired gastropod 6.45 m abu, colonial coral. Brachs resemble *Atrypoidea*. J21 Sample/Slab/Thin Section Description (rep litho sample taken 4 m abu), fresh surface colour; mottled wk vlt orangy yellow (2.5Y 7/2) and wk dk brownish olive (2.5Y 4/2), sedimentary structures; breccia related vugs to 3 cm in size are elongate parallel to stratification. Note that areas up to 15 mm from boundaries are very porous. Some dolomitic mottles are offset by small faults, composition; 3% ossicles w/ 5-point star-shaped axial canals, ostracod valve frags, 1% gastropods to 5 mm in size, 1% solitary corals (to 6 mm long), 15% ossicles and tr echinoderm stems to 10 mm long, 1% smooth brachs to 6 mm in size, tr 10 mm long *Catenipora* frag, one solitary coral forms the nucleus around which a spheroidal stromatoporoid has grown. 7% microspar, 11% c-very c clear spar, 1% chalcedony, many subvertical fractures terminate at stylolites that have been altered to thick laterally continuous porous dolomitic zones. Note that clasts and matrix are trans into each other and therefore difficult to distinguish, 30% m xyn dolomite, very extensive calcified dolomite is dissolved to form vugs. 30% porosity. CL; bright orange-luminescent spar in vugs, along fractures and between clasts. Rock Name: vuggy/sparry fossiliferous m xyn dolostone crackle breccia.
BASE OF UNIT 293.55 TOP OF UNIT 309.80 THICKNESS 16.25

UNIT J22. Weathering Character prom. Colour WS-m to dk brown w/ rusty to grey patches. FS-m brown. Basal Contact trans over 10 cm. Bedding Character planar lam. Bed/Lam Thickness min 0.5 mm, max 2 mm, mode 1 mm. Bed Parting Thickness mode 5 cm. Composition calc dolostone w/ 0.1 mm xtal size, disseminated carb mat'l. Sedimentary

Structures planar lam. Fossils low-spired gastropods 0.5 cm in size. Misc bitumenous odour.
BASE OF UNIT 309.80 TOP OF UNIT 310.90 THICKNESS 1.10

UNIT J23. Crackle breccia as for J21 but is less fossiliferous (1% ossicles).
BASE OF UNIT 310.90 TOP OF UNIT 315.30 THICKNESS 4.40

UNIT J24. Weathering Character prom outcrop as for previous unit. Colour WS-m brown rusty colour accentuates bedding planes. FS-m brownish grey. Basal Contact trans over 10 cm from mottled to bedded. Bedding Character planar lam. Bed Parting Thickness trans, mode 15 cm, min 3 cm, max 20 cm of basal ls. Above 1 m abu stratal parting thickness is min 2 mm, max 2 cm, mode 1 cm. Composition ls, very thin carb films on some bedding planes, <0.1 mm xtal size, 1% bitumen. Sedimentary Structures planar lam. Fossils brach frags. Misc very fissile, bitumenous odour, zone of deformation from 3.8 to 4.0 m abu. J24 Sample/Slab/Thin Section Description. (rep litho sample taken 1 m abu), fresh surface colour; wk vdk olive-brown (10YR 3/2), sedimentary structures; planar to sl wavy lam, lam thickness mode 5 mm, tangential cross-lams and normal grading of peloids, minor scouring, tr low-amplitude stylolites, tr vugs, composition; tr ostracods, 63% peloids (composed of 10% micrite and 53% microspar, size range 25-100μm, mode 35μm). 20% microspar, 5% f-c xyn spar between or replacing peloids, tr bitumen lines fractures and fills vugs, 10% dolomite to 75μm in size, excellent examples of calcified dolomite is com (as composite clear microspar after dolomite), 2% porosity. CL; dolomite luminesces very dull red, calcite is non-luminescent except for one bright orange-luminescent spar fracture-filling veinlet. FLUOR; fluorescent spar coats peloids. Rock Name: sl sparry/dolomitic pelmicrosparite.
BASE OF UNIT 315.30 TOP OF UNIT 319.70 THICKNESS 4.40

UNIT J25. Mottled dolomitic ls.
BASE OF UNIT 319.70 TOP OF UNIT 320.00 THICKNESS 0.30

UNIT J26. Bedded ls as for unit J24, deformed in places.
BASE OF UNIT 320.00 TOP OF UNIT 320.25 THICKNESS 0.25

UNIT J27. Mottled dolomitic ls as for unit J21.
BASE OF UNIT 320.25 TOP OF UNIT 321.35 THICKNESS 1.10

UNIT J28. Prom bedded ls as for unit J24.
BASE OF UNIT 321.35 TOP OF UNIT 323.60 THICKNESS 2.25

UNIT J28a. Weathering Character prom. Basal Contact planar abrupt. Bedding Character vague planar lams, faulted and fractured. Bed/Lam Thickness 5 mm mode. Bed Parting Thickness min 3 cm, max 15 cm, mode 8 cm. Composition ls (<0.05 mm xtal size), veinlets of breccia. Sedimentary Structures planar lams. Misc deformation 1 m abu, microfaults w/ 1 cm apparent displacement. J28a Sample/Slab/Thin Section Description (taken from top of unit), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; 5% 1 mm-sized vugs, composition; 1% microspar fills minor fractures parallel to bedding, 1% brown interxyn organic matter, 73% vf xyn dolomite, 5% vugs to 0.5 mm in size, 20% interxyn porosity, especially high in zones around vugs. CL; non-luminescent. Rock Name: vuggy vf xyn dolostone.
BASE OF UNIT 323.60 TOP OF UNIT 325.00 THICKNESS 1.40

UNIT J29. Weathering Character prom. Colour WS-m grey w/ yellowish orange weathering patches on joint surfaces. FS-m grey. Basal Contact abrupt, locally deformed. Bedding Character planar irregular. Bed Parting Thickness 3 cm mode. Composition calc dolostone (<50μm xtal size). Sedimentary Structures planar irregular bedding. Fossils small solitary corals and small (3 cm wide and 2 cm high) colonial corals. J29 Sample/Slab/Thin Section Description (rep litho sample and solitary coral taken 0.5 m abu), fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; low-amplitude stylolites, composition; 1

articulated ostracod 5.5 mm in size, 10% ostracod frags, 1 solitary coral w/ a 20 mm diameter calyx, 1% ossicles. 74% peloids (composed of 20% micrite and 54% microspar), 15% f-c xyn spar between peloids and peloid aggregates, tr spar fills articulated ostracod, tr chert, subvertical fractures terminate above and below at stylolites, tr vf xyn dolomite. CL; non-luminescent. FLUOR; vug-filling dolomite, fluorescent syntaxial overgrowths on an ossicle, scalenohedral fluorescent vug-lining isopachous spar cement. Rock Name: pelmicrosparite.
BASE OF UNIT 325.00 TOP OF UNIT 326.65 THICKNESS 1.65

UNIT J30. Prom lam dolomitic ls.
BASE OF UNIT 326.65 TOP OF UNIT 327.50 THICKNESS 0.85

UNIT J31. Prom mottled dolomitic ls w/ minor planar lams (70% mottled, 30% lam). One plicated brach (2 cm in size) 0.75 m abu.
BASE OF UNIT 327.50 TOP OF UNIT 329.35 THICKNESS 1.85

UNIT J32. Prom dolomitic ls as for J30, high-amplitude stylolites 2.25 m abu. Red stain on bedding surfaces. Unfossiliferous ls 7.65 m abu. Bed Parting Thickness min 2 cm, max 6 cm, mode 3 cm.
BASE OF UNIT 329.35 TOP OF UNIT 340.10 THICKNESS 10.75

UNIT J33. Weathering Character prom, outcrop as for previous unit. Colour WS-m brownish grey to rusty (limonitic) staining on 30% of surface. FS-m brownish grey. Basal Contact trans planar over 0.5 m. Bedding Character mottled. Composition calc dolostone w/ $<50\mu$m xtal size. Sedimentary Structures mottles, high-amplitude stylolites. Fossils *Catenipora* 1.5 m abu. Misc red colour (hematite?) on stratal parting surfaces. J33 Sample/Slab/Thin Section Description (rep litho sample w/ chain coral taken 1.5 m abu), fresh surface colour; mottled wk vlt yellowish orange (10YR 7/2) and wk m olive-brown (10YR 5/2), sedimentary structures; high-amplitude (to 2 mm) stylolites, cm-sized dolomitic mottles, composition; 5% *Catenipora* frags, one of which has been partly dissolved and faulted against a stylolite, some corallites of *Catenipora* are lined w/ m xyn spar and filled w/ m xyn polyxyn quartz, 3% ossicles, tr brach frags (one 3 mm-sized articulated and plicated brach frag), tr stick bryozoan frag 1.5 mm thick and 8 mm long, tr spar-filled articulated ostracods. 5% micrite, 62% microspar, 15% f-m xyn spar mainly fills subvertical fractures, 2% interxyn organic matter, numerous subvertical fractures (some spar-filled) terminate at stylolites, 3% vf xyn dolomite, 5% porosity along fractures and stylolites. CL; very dull orange-red luminescence except for bright orange-luminescent calcite overgrowths on vug-filling spar. FLUOR; 5% pore-filling fluorescent spar. Rock Name: mottled sl micritic/sparry fossiliferous microsparite. J33a Sample/Slab/Thin Section Description (taken 3 m abu), fresh surface colour; mottled wk vlt yellowish orange (10YR 7/2) and wk olive brown (10YR 5/2), sedimentary structures; high-amplitude stylolites, composition; tr solitary coral frags, 18% favositid corals to 17 mm thick and at least 65 mm long, coral structure has collapsed, 5% articulated ostracods to 1 mm in size, 5% ostracod frags, tr ossicles, 25% peloids (composed of microspar). 19% microspar between peloids, 20% f xyn spar fills space between peloids and peloid aggregates, c xyn spar fills corallites. 3% polyxyn quartz, cement in corallites is complex, including a lining of f xyn spar, then m xyn quartz, then c xyn spar, misc; subvertical fractures com terminate at stylolites, 'kink' cleavage in spar is probably a result of vertically-directed overburden stress because this cleavage is apparent in the collapsed favositid coral walls. Kinks occur not only in walls but also in spar lining corallites. Tabulae are folded and broken, spar is therefore a pre-brecciation cement. 2% dolomite replaces or partly replaces ostracod and coral skeletons. 5% porosity along fractures and stylolites, tr interxyn porosity. CL; generally dull orange-red luminescence, 30% vug-filling spar has complex-zoned bright orange-luminescent overgrowths. FLUOR; fluorescent scalenohedral spar lines corallites (isopachous cement), spar filling corallites is not fluorescent. Rock Name: mottled microsparitic coral-bearing biopelsparite.
BASE OF UNIT 340.10 TOP OF UNIT 347.30 THICKNESS 7.20

UNIT J34. Weathering Character prom. Colour WS-red staining on parting surfaces (hematite?). Bedding Character planar. Bed Thickness min 1 cm, max 10 cm, mode 4 cm. Composition calc dolostone. J34 Sample/Slab/Thin Section Description (rep litho sample taken 2.7 m abu), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; low-amplitude stylolites, composition; 10% micrite, 80% microspar, 1% spar, 2% brown interxyn mat'l, 1% dispersed aphano-vf xyn dolomite, 1% dolomite is concentrated alongside stylolites. 5% interxyn porosity. CL; generally dull red-luminescent. Rock Name: micritic microsparite.
BASE OF UNIT 347.30 TOP OF UNIT 352.50 THICKNESS 5.20

UNIT J35. Weathering Character prom, outcrop as for previous unit. Colour WS-variable m grey w/ rusty staining. FS-m brown. Basal Contact abrupt wavy, 1-2 m wavelength, 20 cm amplitude. Bedding Character unbedded. Composition dolomitic ls, <0.1 mm xtal size, 5% small vugs <1 mm in size. Sedimentary Structures vugs. Misc variable thickness, 'boudinaged' appearance. Sample J35 taken for conodonts.
BASE OF UNIT 352.50 TOP OF UNIT 353.10 THICKNESS 0.60

UNIT J36. Weathering Character semi-prom, dendritic pyrolusite(?) on bedding plane surfaces. Colour WS-m brown w/ rusty patches. FS-m brown. Basal Contact abrupt wavy, (2 m wavelength, 20 cm amplitude). Bedding Character planar lam, laterally continuous for metres, locally brecciated. Bed/Lam Thickness min 2, max 10, mode 8 mm. Bed Parting Thickness min 4 mm, max 2 cm, mode 1 cm. Composition dolomitic ls (<0.1 mm xtal size), locally crackle breccia. Sedimentary Structures planar lam w/ tight kink folds.
BASE OF UNIT 353.10 TOP OF UNIT 354.95 THICKNESS 1.85

UNIT J37. Weathering Character prom outcrop as for previous unit. Colour WS-rust-coloured from a distance, m grey w/ rusty mottles up close. FS-m brown. Basal Contact wavy abrupt, wavelength 3 m, amplitude 10 cm. Bedding Character crackle breccia at base grades to rubble breccia 2 m abu. Composition ls breccia w/ ang to sbang randomly-oriented clasts, 10% interclast porosity, 10% 'matrix', <100μm xtal size. Clast size-min 2 mm, max 2 cm, mode NA. Sedimentary Structures high-amplitude stylolites throughout. Misc unit J37 varies laterally in thickness and resembles boudinage due to differential dissolution along the unit. J37 Sample/Slab/Thin Section Description (rep litho sample w/ stylolites taken at base of unit), fresh surface colour; vlt orangy yellow (2.5Y 7/3), sedimentary structures; pervasive very high amplitude (to 6 mm) stylolites grading to breccia, irregularly-shaped vugs occur to 4 mm in size along stylolites, composition; 70% microspar to m xyn spar, a clotted texture occurs between microspar/f xyn spar and m xyn spar, 5% c xyn quartz fills vugs, 'clasts' and 'matrix' are difficult to distinguish, subvertical fractures com terminate at stylolites or at vugs along stylolites. 25% porosity along stylolites and between clasts, breccia 'clast' size is indistinct, possibly has a 5 mm mode. Rock Name: sl quartzitic/microsparitic f-m xyn sparite 'clast & matrix' crackle breccia.
BASE OF UNIT 354.95 TOP OF UNIT 359.00 THICKNESS 4.05

UNIT J38. Rec covered interval.
BASE OF UNIT 359.00 TOP OF UNIT 362.10 THICKNESS 3.10

UNIT J39. Rec covered interval.
BASE OF UNIT 362.10 TOP OF UNIT 365.85 THICKNESS 3.75

UNIT J40. Weathering Character semi-rec very poor outcrop. Colour FS-brown. Composition calc dolostone.
BASE OF UNIT 365.85 TOP OF UNIT 366.85 THICKNESS 1.00

UNIT J41. Rec covered interval.
BASE OF UNIT 366.85 TOP OF UNIT 372.65 THICKNESS 5.80

UNIT J42. Weathering Character semi-prom, unit is traceable laterally for hundreds of metres. Colour WS-m brownish grey w/ rusty brown irregular mottles. FS-m brown. Basal Contact covered. Bedding Character planar lam/bedded. Bed/Lam Parting Thickness min 1 cm, max 60 cm, mode 10 cm. Composition sparsely fossiliferous ls (xtal size <50μm), 2% vugs to 1 cm, lined w/ 1 mm sized spar. Concretionary horizon 1.3 m abu, contains 2-15 cm long by 1.5 cm thick concretions. Sedimentary Structures planar bedding. Fossils 1-2% ossicles, tr echinoderm stems to 1 cm long, trend 20°, tr brachs. Misc veins and veinlets of white spar to 2 mm in size. J42 Sample/Slab/Thin Section Description (rep litho sample taken 1 m abu), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; low-amplitude stylolites, composition; 4% ossicles, some w/ 5-point star-shaped axial canals, 4% articulated ostracods to 1 mm in size (rarely to 4 mm), filled w/ spar, 2% ostracod frags, tr brach frags, 68% peloids (composed of 30% micrite and 38% microspar, size mode 50μm, range 25-75μm). 5% microspar, 15% f-m xyn spar fills subvertical fractures that terminate at stylolites, 3% f xyn dolomite occurs between peloids and peloid aggregates, dolomite replaces some ls beside fractures. Tr porosity. CL; generally a very dull red luminescence. FLUOR; fluorescent overgrowths on ossicles, clear spar between peloids is non-fluorescent. Rock Name: sl microsparitic/fossiliferous pelsparite.
BASE OF UNIT 372.65 TOP OF UNIT 375.95 THICKNESS 3.30

UNIT J43. Weathering Character semi-prom 1-2 m wide outcrop. Colour WS-buff w/ rusty patches, FS-buff. Basal Contact abrupt planar (deformed). Composition ls breccia w/ 10% porosity. Sedimentary Structures subvertical high-amplitude stylolites throughout. Misc well indurated.
BASE OF UNIT 375.95 TOP OF UNIT 376.85 THICKNESS 0.90

UNIT J44. Rec covered interval.
BASE OF UNIT 376.85 TOP OF UNIT 377.75 THICKNESS 0.90

UNIT J45. Weathering Character semi-prom but prom 3 m abu, unit is traceable for kilometres. Colour WS-variable m brownish grey and rusty brown, m grey from a distance. FS-variable, some buff clasts, some are m brownish grey. Basal Contact covered. Bedding Character rubble breccia. Composition rubble breccia, 75% 'clasts', 15% 'matrix', 10% porosity, 60% of clasts are m brownish grey, 15% are buff. Clast size-min 5 mm, max 40 cm, mode 20 cm, clasts are randomly oriented, ang to sbang. The m brownish grey clasts are calc dolostone, buff 'clasts' are dolostone, 'matrix' is calc. Sedimentary Stuctures high-amplitude stylolites. Fossils ossicles, echinoderm stem 1 cm long and 0.5 cm in diameter. Misc breccia veins throughout unit, clasts in veins are small. J45 Sample/Slab/Thin Section Description (rep litho sample taken 1.5 m abu), fresh surface colour; overall vlt yellowish orange (10YR 7/3), yellowish orange residue along stylolites, sedimentary structures; high-amplitude stylolites, 10% vugs to 1 cm, composition; breccia, tr echinoderm stem, 2% f xyn dolomite. 15% vugs to 1 cm and 5% porosity between clasts and along stylolites/fractures. 10% grey chert clasts are clast-supported, many of the smaller clasts are composed of microspar, some clasts, especially the smaller ones have parts of their extremeties replaced by microspar. It is therefore difficult to distinguish 'clasts' from f xyn sparite 'matrix', min clast size 2 mm, max 7 cm, mode 1-2 cm, some clasts are recrystallized to spar which makes it difficult to distinguish sparry 'matrix' from 'clasts', in rare instances 'clasts' are limonitic. Subvertical fractures com terminate at stylolites and spar-filled fractures com pervade clasts. CL; about 30% multi-fold complex-zoned vug-filling spar between dull red luminescent breccia clasts. FLUOR; spar 'matrix' between clasts is clear and zoned. Rock Name: micritic microsparite to f xyn sparite 'clast'-sparite 'matrix' mosaic to rubble breccia.
BASE OF UNIT 377.75 TOP OF UNIT 383.35 THICKNESS 5.60

UNIT J46. Weathering Character prom outcrop as for previous unit. Colour WS-lt buff w/ minor rusty patches, FS-buff. Basal Contact abrupt wavy w/ collapses into underlying unit. Composition ls mosaic to rubble breccia-'clasts' and 'matrix' are difficult to differentiate, 35% clast moulds. Clast orientation random, dissolved clasts-mode 2 cm, sbang moulds.

Sedimentary Structures columnar stylolites. Misc clasts weather out on surface. J46 Sample/Slab/Thin Section Description (rep litho sample taken 1.5 m abu), fresh surface colour; vlt orangy yellow (2.5Y 7/3), sedimentary structures; 2 cm-sized vugs (clast moulds), 1% limonite, tr malachite lines clast moulds, composition; breccia, both 'clasts' and 'matrix' consist of spar, 30% porosity due to clast moulds (centers of some clasts are preferentially dissolved and lined w/ clear m xyn spar), 15% interxyn porosity, clast moulds to 2 cm in size, clast size ranges from 2 to 20 mm (mode 10 mm). CL; many of the clast moulds and partial clast moulds are filled w/ a complex multi-fold zoned composite spar. The 'matrix' between clasts has a very dull orange-red luminescence. Rock Name: sparite ('matrix' and 'clast') mosaic breccia.
BASE OF UNIT 383.35 TOP OF UNIT 385.20 THICKNESS 1.85

UNIT J47. Rec covered interval.
BASE OF UNIT 385.20 TOP OF UNIT 385.70 THICKNESS 0.50

UNIT J48. Weathering Character prom, outcrop as for previous unit. Colour WS-m brown at a distance, at close range is variable m brown w/ rusty patches. FS-m brown. Basal Contact covered, wavy on a small scale. Composition mosaic to rubble breccia (bedded in places), 10% porosity, 15% 'matrix', 75% randomly oriented ang to sbang ls clasts, (min 3-4 mm, max 10 cm, mode 3-4 cm), Fossils tr colonial coral (4X5 cm), tr 1 cm-sized solitary corals, tr ossicles and shell frags. Misc sl bitumenous odour. Bed Thickness min 3 mm, max 20 cm, mode 5 cm. Bedding Character vague, as for parting. J48 Sample/Slab Description (rep litho sample taken from bedded part 3 m abu), fresh surface colour; vwk dk olive-brown (10YR 4/1), sedimentary structures; minor low-amplitude stylolites, composition; 60% articulated ostracods to 7 mm in size, filled w/ peloids and spar (some w/ geopetal fabric of spar over peloids), 10% ossicles, some w/ 5-point star-shaped axial canals. 25% spar between ostracods. 5% fracture porosity, misc; subvertical fractures. Rock Name: ostracodal biosparite.
BASE OF UNIT 385.70 TOP OF UNIT 390.55 THICKNESS 4.85

UNIT J49. Rec covered interval.
BASE OF UNIT 390.55 TOP OF UNIT 395.85 THICKNESS 5.30

UNIT J50. Weathering Character prom outcrop is 3 m wide, unit is traceable in buttress-like outcrops along the coast. Colour WS & FS-buff. Basal Contact covered. Bedding Character planar lam. Bed Parting Thickness min 1 cm, max 15 cm, mode 5 cm. About 6.25 m abu mode changes to 25 cm. Bed/Lam Thickness very vague (mode 4-5 cm). Composition dolomitic ls to ls. Sedimentary Structures planar lam, stylolites throughout unit. Misc kink fold 3 m abu. J50 Sample/Slab/Thin Section Description (rep litho sample taken 1.5 m abu), fresh surface colour; vwk xlt yellowish orange (10YR 8/1), sedimentary structures; very vague planar bedding, composition; 5% micrite, 10% microspar, 5% f xyn spar, 75% f xyn dolomite (mode 40μm), is evenly distributed and consists of anhedral intergrown xtals, minor calcified dolomite occurs as microspar replacing dolomite along edges. 5% interxyn porosity. CL; very dull orange-red luminescent dolomite, calcite is non-luminescent. Rock Name: sl micritic/sl sparry microsparitic f xyn dolostone.
BASE OF UNIT 395.85 TOP OF UNIT 402.75 THICKNESS 6.90

UNIT J51. Rec covered interval.
BASE OF UNIT 402.75 TOP OF UNIT 403.95 THICKNESS 1.20

UNIT J52. Weathering Character prom unit (15 m wide) is traceable in buttress-like outcrops for kilometres along the coast. Colour WS-m brown w/ yellowish brown patches. FS-m brown. Basal Contact covered. Bedding Character planar bedded (some mottles). Bed Parting Thickness min 4 cm, max 50 cm, mode 30 cm. Composition ls. Fossils 2% ostracod valve frags. Misc well indurated. J52 Sample/Slab/Thin Section Description (rep litho sample taken 1.5 m abu), fresh surface colour; m olive-brown (10YR 5/3), sedimentary structures; minor low-amplitude stylolites, small isolated dk pelmicrosparitic areas to 1 cm in size represent

undolomitized remnants of original litho, composition; 5% articulated ostracods to 2 mm in size, filled w/ pelmicrospar and spar, 10% ostracod frags. 15% peloids (composed of 10% micrite and 5% microspar). 5% microspar, 5% f xyn spar occurs between peloids and peloid aggregates, 50% f xyn dolomite (40μm mode), calcified dolomite is com as clear composite microspar replacing cores of dolomite rhombs. Most of the dolomite has microspar inclusions. 10% porosity (5% along stylolites and 5% between xtals), misc; minor subvertical fractures terminate at stylolites, areas below convex-up ostracod frags are not dolomitic. FLUOR; scalenohedral spar lines and coats ostracods (isopachous cement), spar filling ostracods is non-fluorescent. Rock Name: mottled ostracodal peloidal f xyn dolostone.
BASE OF UNIT 403.95 TOP OF UNIT 406.95 THICKNESS 3.00

UNIT J53. Weathering Character prom. Colour WS & FS-m brown. Basal Contact wavy abrupt (wavelength 3 m, amplitude 20 cm). Bedding Character planar lam. Bed/Lam Thickness mode 1.0 cm. Bed/Parting Thickness min 4 cm, max 50 cm, mode 10 cm. Composition ls w/ tr carb film. Sedimentary Structures planar lam. Fossils 2% ossicles, 3 mm wide 'tubes'. J53 Sample/Slab/Thin Section Description (rep litho sample taken 1 m abu), fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; low- and minor high-amplitude stylolites, mottles are elongate parallel to bedding, composition; 5% micrite and 20% microspar in irregularly-shaped and variously-sized stylolite-bounded mottles, 72% f xyn dolomite (40μm modal size), good examples of calcified dolomite in the form of clear composite microspar after dolomite rhombs. 3% porosity along stylolites and between xtals/gns. CL; a dull red luminescent dolomite. Except for bright orange-luminescent spar-filled veinlets, calcite is non-luminescent. Rock Name: mottled sl micritic/microsparitic f xyn dolostone.
BASE OF UNIT 406.95 TOP OF UNIT 408.65 THICKNESS 1.70

UNIT J54. Weathering Character prom outcrop as for previous unit. Colour WS-variable m grey w/ rusty brown mottles. FS-m brown. Basal Contact abrupt planar to sl wavy, 1 m wavelength. Bedding Character massive, fractured. Composition ls w/ <0.1 mm xtal size. Sedimentary Structures hummocky structures(?). Misc well indurated where not fractured.
BASE OF UNIT 408.65 TOP OF UNIT 409.55 THICKNESS 0.90

UNIT J55. Weathering Character prom outcrop as for previous unit. Colour WS & FS-buff. Basal Contact irregular hummocky (deformed). Bedding Character planar lam and locally convex-up and contorted stratification. Bed/Lam Thickness mode 1.0 cm. Bed Parting Thickness min 10 mm, max 30 mm, mode 15 mm. Composition dolostone, locally crackle breccia. Sedimentary Structures planar lam. Misc deformed, breccia veinlets run through unit. J55 Sample/Slab/Thin Section Description (rep litho sample taken 20 cm abu), fresh surface colour; breccia clasts are wk xlt yellowish orange (10YR 8/2) in a wk dk olive-brown (10YR 4/2) groundmass, composition; breccia clasts consist of porous vf-f xyn dolostone in which porosity is in the form of leached dolomite xtals, clast size min-5 mm, max 50 mm, mode 10 mm, 'matrix' consists of f-m xyn spar and chert, misc; numerous subvertical fractures terminate at stylolites, fractures and stylolites are partly filled w/ spar, in places spar has been dissolved to create porosity. CL; dolomite luminesces dull red, calcite is non-luminescent. Rock Name: vf to f xyn dolostone 'clast' f-m xyn spar/chert 'matrix' crackle breccia.
BASE OF UNIT 409.55 TOP OF UNIT 410.15 THICKNESS 0.60

UNIT J56. Weathering Character prom. Colour WS & FS-m brown. Basal Contact irregular, extends down into unit J55 to various levels. Composition breccia and in part bedded (deformed), 10% porosity, 10% 'matrix', 80% 'clasts', including dk grey ang chert (from chert nodules). Clast size-min 1 cm, max 10 cm, mode 2 cm. Clast orientation-random. Clast shape-ang to sbang. Sedimentary Structures vague planar bedding, in part contorted. J56 Sample/Slab/Thin Section Description (litho sample of bedded portion, one of breccia w/ chert clasts), fresh surface colour; wk xlt yellowish orange (10YR 8/2) clasts in a m olive-brown (10YR 5/3) groundmass, sedimentary structures; some broken chert nodules, mainly low-amplitude stylolites, however some are subvertical and separate crackle breccia

clasts, composition; 37% microspar, 20% spar fills and/or replaces mat'l along stylolites and fractures, 5% ang chert clasts to 25 mm in size, contains between 5 and 50% f xyn spar rhomb inclusions. 35% f xyn dolomite, very extensively calcified dolomite occurs in the form of f xyn spar after dolomite rhombs, in many cases the margins of the dolomite rhombs are preserved. 3% porosity along fractures and stylolites. Misc; subvertical fractures terminate at stylolites. Fractures and stylolites define the boundaries of crackle breccia 'clasts' which are further distinguished where spar fills or replaces mat'l along stylolites and fractures. CL; dolomite luminesces dull red, calcite is non-luminescent. Rock Name: sparry/dolomitic microsparite crackle breccia.
BASE OF UNIT 410.15 TOP OF UNIT 411.60 THICKNESS 1.45

UNIT J57. Rec covered interval.
BASE OF UNIT 411.60 TOP OF UNIT 412.95 THICKNESS 1.35

UNIT J58. Weathering Character prom. Colour WS & FS-lt buff. Basal Contact covered. Bedding Character superimposed convex-up structures on various scales to 8 cm across and 1 cm high. Bed/Parting Thickness min 2 cm, max 50 cm, mode 20 cm. Composition dolomitic ls. Misc well indurated. J58 Sample/Slab/Thin Section Description (rep litho sample taken 2.0 m abu), fresh surface colour; wk xlt yellowish orange (10YR 7/2), sedimentary structures; convex-up structures (wavelength 12 cm, amplitude 3 cm), low-amplitude stylolites, composition; 15% spar between xtals and along fractures, 70% f xyn dolomite (50μm mode), minor calcified dolomite. 15% interxyn porosity due to corroded dolomite, misc; minor subvertical spar-filled fractures terminate at stylolites. CL; dolomite luminesces dull red, calcite is non-luminescent. Rock Name: sparry (f xyn) f xyn dolostone.
BASE OF UNIT 412.95 TOP OF UNIT 416.10 THICKNESS 3.15

UNIT J59. Weathering Character prom outcrop as for previous unit. Colour WS & FS-buff. Basal Contact wavy (wavelength 2.0 m, amplitude 30 cm). Bedding Character wavy structures. Bed Parting Thickness min 2 cm, max 30 cm, mode 15 cm. Composition ls w/ <0.1 mm xtal size, fenestral? porosity, tr chert nodules. Sedimentary Structures minor high-amplitude stylolites, hummocky structures (wavelength 2 m, amplitude 0.5 m). Misc well indurated.
BASE OF UNIT 416.10 TOP OF UNIT 420.40 THICKNESS 4.30

UNIT J60. Weathering Character prom 1-2 m wide outcrop. Colour WS & FS-m brown, mottled. Basal Contact abrupt planar. Bedding Character mottled. Composition ls w/ chert nodules, xtal size <0.1 mm. Sedimentary Structures mottles. Misc well indurated.
BASE OF UNIT 420.40 TOP OF UNIT 421.15 THICKNESS 0.75

UNIT J61. Weathering Character prom. Colour WS & FS-buff. Basal Contact abrupt. Bedding Character vague planar bedding. Bed Parting Thickness mode 15 cm. Composition dolostone w/ 2 mm xtal size. Sedimentary Structures planar bedding.
BASE OF UNIT 421.15 TOP OF UNIT 422.00 THICKNESS 0.85

UNIT J62. Prom mottled ls.
BASE OF UNIT 422.00 TOP OF UNIT 422.65 THICKNESS 0.65

UNIT J63. Prom buff dolostone.
BASE OF UNIT 422.65 TOP OF UNIT 423.55 THICKNESS 0.90

UNIT J64. Prom mottled ls as for Je60.
BASE OF UNIT 423.55 TOP OF UNIT 424.55 THICKNESS 1.00

UNIT J65. Prom buff ls, the basal 30 cm contains hummocky structures.
BASE OF UNIT 424.55 TOP OF UNIT 425.90 THICKNESS 1.35

UNIT J66. Weathering Character prom. Colour WS-buff, FS-m brown. Basal Contact indet. Composition rubble breccia, 80% 'clasts', 10% 'matrix', 'clast' size min 5 mm, max 10 cm, mode 3 cm, orientation random, shape is ang to sbang, clast composition is ls (<0.1 mm xtal size). Misc crumbly and inaccessible.
BASE OF UNIT 425.90 TOP OF UNIT 427.25 THICKNESS 1.35

UNIT J66a. Prom inaccessible brown ls.
BASE OF UNIT 427.25 TOP OF UNIT 427.85 THICKNESS 0.50

UNIT J67. Rec poor exposure, m brown calc dolostone to dolomitic ls. J67 Sample/Slab/Thin Section Description (rep litho sample taken at top of unit), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; low-amplitude stylolites, composition; tr plicated brachs, 2% dolomitic sponge spicules, 70% peloids (composed of 20% micrite and 50% microspar), 10% microspar between peloids, 5% subvertical spar-filled fractures, spar is f-very c xyn, 5% spar between peloids and peloid aggregates, 3% vf-f xyn evenly distributed dolomite, 5% porosity along stylolites and between xtals/gns, misc; some of the small subvertical fractures terminate at stylolites, there are also a few spar-filled fractures subparallel to bedding. CL; bright orange-luminescent complexly-zoned spar 'matrix', spar lining clasts is non-luminescent. Calcite of the 'clasts' is non-luminescent. FLUOR; fracture-filling spar is vaguely zoned. Rock Name: sparry sl dolomitic pelmicrosparite.
BASE OF UNIT 427.85 TOP OF UNIT 429.60 THICKNESS 1.75

UNIT J68. Semi-prom buff calc dolostone to ls w/ hummocky structures at top of unit.
BASE OF UNIT 429.60 TOP OF UNIT 433.05 THICKNESS 3.45

UNIT J69. Rec covered interval.
BASE OF UNIT 433.05 TOP OF UNIT 434.30 THICKNESS 1.25

UNIT J70. Weathering Character prom, outcrop traceable for kilometres along coastline, forms prom ledge. Unit weathers buff 12.5 m abu. Colour WS-m brownish grey, FS-m brown. Basal Contact abrupt planar. Bedding Character vaguely bedded, in part mottled, locally brecciated. Bed Parting Thickness min 2 cm, max 3 m, mode 1.5 m. Composition ls w/ 0.3-0.4 mm xtal size, locally brecciated, tr chert nodules to 15 cm long x 10 cm thick, dk grey, rd, elongate parallel to bedding, vugs 1-2 mm in size. Sedimentary Structures vague bedding, stylolites, hummocky structures 10.5 to 12.5 m abu. Fossils tr plicated brachs approx 0.5 cm wide, up to 1% ostracods (1 cm in size and 0.5 mm thick), poorly preserved 2 cm-wide colonial coral 3 m abu. Misc locally brecciated and fractured, particularly at base. Breccia veinlets run through entire outcrop. Sample J70 taken for conodonts. J70a Sample/Slab Description (rep litho sample taken at base), fresh surface colour; clasts are wk m olive-brown (10YR 5/2) and vwk xlt yellowish orange (10YR 8/1), sedimentary structures; crackle breccia, composition; ostracods are coated w/ a radially-oriented spar xtal cement rim 0.15 mm thick, 50% articulated ostracods (modal size 0.7 mm), many filled w/ spar. 15% f-c xyn spar fills subvertical fractures, 20% f-c xyn spar occurs between ostracods. 15% subvertical fracture porosity. Rock Name: coated gn ostracodal biosparite crackle breccia. J70b Sample/Slab/Thin Section Description (rep litho sample of bedded portion taken 1.5 m abu), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; low-amplitude stylolites, 10% vugs to 3 mm in size, 1% porosity along stylolites, composition; 5% intraclasts to 7 mm in size, 30% ostracods (mode 1 mm) filled w/ spar, 10% of these ostracods are coated w/ a rim of radially disposed elongate spar xtals, tr brachs, 25% peloids (50μm mode). 10% microspar, 19% f-c xyn spar, tr dispersed f xyn dolomite. 10% porosity in vugs/fractures and between xtals/gns. CL; 20% orange-luminescent overgrowths on spar filling vugs, calcite is non-luminescent. FLUOR; fluorescent scalenohedral spar rims peloids (isopachous cement), spar between peloids is non-fluorescent. Rock Name: sl intraclastic/coated gn/ ostracodal/microsparitic biopelsparite.
BASE OF UNIT 434.30 TOP OF UNIT 448.00 THICKNESS 13.70

The base of J71 is taken as the base of the upper member of the Cape Crauford Formation.

UNIT J71. Weathering Character prom 1-2 m wide outcrop. Colour WS & FS-lt buff. Basal Contact wavy abrupt (5 cm wavelength, 1 cm amplitude). Bedding Character wavy structures. Bed Parting Thickness mode 10 cm. Composition ls w/ 0.2 mm xtal size. Sedimentary Structures high-amplitude stylolites. J71 Sample/Slab/Thin Section Description (rep litho sample taken at top of unit, contains a vein of breccia derived from the overlying unit), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; pervasive high amplitude (to 6 mm) stylolites in locally brecciated 3 cm wide subvertical breccia vein, low-amplitude stylolites in unbrecciated rock. Some low-amplitude stylolites in unbrecciated rock may be traced laterally into high-amplitude stylolites in the breccia vein. Residue along stylolites is a limonitic yellowish orange. Locally brecciated w/ some clasts partly dissolved along solution-widened fractures, composition; f-m xyn spar (35μm mode), tr malachite in breccia, some carb rhombs replaced by monoxyn quartz. 10% porosity along fractures and stylolites, 5% between xtals, misc; in local breccia vein subvertical fractures traverse stylolites, breccia is composed of microsparite/ sparite 'clasts', a few are composed of monoxyn quartz or spherulitic chalcedony, clast size min-2 mm, max 2 cm, mode 8 mm, 'matrix' is microsparite/f xyn sparite. CL; calcite luminesces a very dull orange-red except for bright orange-luminescent spar overgrowths on pore-lining spar. FLUOR; 5% fluorescent-zoned pore-filling spar. Rock Name: locally brecciated microsparitic f-m xyn sparite.
BASE OF UNIT 448.00 TOP OF UNIT 448.30 THICKNESS 0.30

UNIT J72. Weathering Character prom 7 m wide outcrop. Colour WS & FS-lt buff. Basal Contact wavy, trans over 10 cm. Composition ls breccia, 60% clasts, 25% 'matrix', 15% porosity mainly as clast moulds, clast size-min 2 mm, max 10 cm, mode 1.5 cm, inverse size-grading of breccia clasts, crackle breccia at base is trans to rubble breccia 10 cm abu. At base clast size mode is 4 mm, 1 m abu mode is up to 10 cm, random clast orientation, ang to sbrd clasts w/ sbrd large clasts, tr chert clasts. Sedimentary Structures high-amplitude (to 20 mm) columnar stylolites throughout unit. Misc lams in some of the clasts. J72 Sample/Slab/Thin Section Description (rep litho sample taken at base of unit), fresh surface colour; clasts are wk m olive-brown (10YR 5/2) and xlt yellowish-orange (10YR 8/3), sedimentary structures; pervasive stylolites w/ amplitudes to 20 mm, some stylolites bifurcate, composition; breccia clasts are composed of pelmicrosparite or microsparite to f xyn sparite, 3% ang chert clasts (min 2 mm, max 30 mm, mode 8 mm), 'matrix' consists of f xyn sparite, misc; clasts are extensively fractured, some subvertical fractures terminate at stylolites. CL; non-luminescent except for orange-luminescent zoned overgrowths on clear spar lining 'clasts'. FLUOR; irregularly-shaped fluorescent patchy areas. Rock Name: pelmicrosparite/microsparite to f xyn sparite 'clast' f xyn sparite 'matrix' mosaic to rubble breccia.
BASE OF UNIT 448.30 TOP OF UNIT 450.15 THICKNESS 1.85

UNIT J73. Rec covered interval.
BASE OF UNIT 450.15 TOP OF UNIT 451.15 THICKNESS 1.00

UNIT J74. Weathering Character prom unit is traceable for kilometres. Colour WS & FS-m brownish grey. Basal Contact covered. Bedding Character hummocky structures, locally brecciated. Bed Parting Thickness min 5 mm, max 20 cm, mode 10 cm. Composition ls w/ chert nodules (10 cm long by 7 cm thick), elongate parallel to bedding, in part breccia. Sedimentary Structures high-amplitude stylolites throughout, bedding deflected by chert nodules, also hummocky structures, locally brecciated and fractured. J74 Sample/Slab/Thin Section Description (rep litho sample taken 1.5 m abu), fresh surface colour; lt olive brown (10YR 6/3), sedimentary structures; low-amplitude stylolites w/ amplitudes to 0.9 mm, local breccia, extensively fractured, extensive dissolution (vugs to 1 mm), composition; crackle breccia, 15% microspar pseudomorphs after gypsum xtals to 1 mm in size (some w/ swallowtail twins), pseudomorphs concentrated along stylolites where they are partly dissolved/truncated, 20% spar fills subvertical fractures, 5% aphano-f xyn dolomite, 5%

porosity along fractures and stylolites, 55% breccia clasts (composed of microsparite) w/ a 5 mm modal size, misc; extensive subvertical fractures some of which terminate at stylolites, some fractures are microfaults along which stylolites are offset. CL; non-luminescent except for multi-fold zoned orange-luminescent calcite overgrowths on spar lining vugs. Spar filling vugs may be bright orange-luminescent. Rock Name: microsparite 'clast'/sparite 'matrix' crackle breccia.
BASE OF UNIT 451.15 TOP OF UNIT 454.75 THICKNESS 3.60

UNIT J75. Rec covered interval.
BASE OF UNIT 454.75 TOP OF UNIT 456.50 THICKNESS 1.75

UNIT J76. Weathering Character prom unit is traceable for kilometres. Colour WS-m brownish-grey w/ rusty brown mottles. FS-m brownish-grey. Basal Contact covered. Bedding Character planar bedded. Bed Parting Thickness min 1.0 cm, max 50 cm, mode 20 cm. Composition ls w/ <0.1 mm xtal size (micrite?), 5% fracture porosity, tr chert nodules 20 x 2 cm (elongate parallel to bedding). Sedimentary Structures planar bedding. Misc in part fractured. J76 Sample/Slab/Thin Section Description (rep litho sample taken 1 m abu), fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; sl fractured, low-amplitude stylolites, minor dendrites, composition; 94% microspar, 3% vf xyn dolomite, 3% fracture porosity, misc; sl fractured, subvertical fractures terminate at stylolites. CL; non-luminescent except for orange-luminescent zoned overgrowths on spar lining fractures. Rock Name: microsparite. Sample Je76a conodont sample taken.
BASE OF UNIT 456.50 TOP OF UNIT 459.00 THICKNESS 2.50

UNIT J77. Rec covered interval.
BASE OF UNIT 459.00 TOP OF UNIT 461.75 THICKNESS 2.75

UNIT J78. Weathering Character prom, unit is traceable laterally for kilometres. Colour WS & FS-mottled buff, rusty bedding planes. Basal Contact covered. Bedding Character mottled. Bed Parting Thickness min 5 cm, max 2.0 m, mode 30 cm. Composition f xyn dolostone, 1% grey chert nodules w/ white rims. Sedimentary Structures 2 cm-sized mottles, brown ls mottles weather out. Fossils dolomitized poorly preserved solitary corals (2 cm in size), brachs in scree, 1-2% ossicles 13 m abu, 1 cm-sized at a locality 16 m abu. Misc well indurated. J78 Sample/Slab/Thin Section Description (rep litho sample taken 3.75 m abu), fresh surface colour; wk lt olive brown (10YR 6/2), sedimentary structures; low-amplitude stylolites (accentuated by yellowish orange residue), mottles, composition; 10% articulated ostracods to 5 mm, 5% ostracod frags, 2% ossicles (some w/ dolomite overgrowths), 5% spar fills vugs, 5% chalcedony occurs along one stylolite, tr c xyn hematite in thin section, 85% f xyn dolomite as anhedral intergrown xtals, inclusion-rich cores and clear rims. 10% porosity along stylolites and between xtals/gns, misc; subvertical dolospar-filled fractures com terminate at stylolites. CL; a uniform moderate orange-red luminescent dolomite except for zoned orange-luminescent overgrowths on limpid dolomite lining vugs. FLUOR; clear zoned spar in patchy areas. Rock Name: ostracodal sl sparry/chalcedonic f-m xyn dolostone.
BASE OF UNIT 461.75 TOP OF UNIT 487.25 THICKNESS 25.50

UNIT J79. Rec covered interval.
BASE OF UNIT 487.25 TOP OF UNIT 500.00 THICKNESS 12.75

M. FIELD AND SAMPLE DESCRIPTIONS FOR SECTION K, MEASURED IN 1983.

Locality: Section K, Stanley Point, 2,560 m south of Lancaster Sound.
Latitude: 73°48'10"N.
Longitude: 85°33'00"W.

Section K is entirely in member B of the Baillarge Formation.
The top of unit K2 is taken as stratigraphically equivalent to the top of unit I2.

UNIT K1. Rec covered interval. Measured along stream which flows out of glacier 2 km south of Lancaster Sound and due south of base camp.
BASE OF UNIT 0.00 TOP OF UNIT 52.00 THICKNESS 52.00

UNIT K2. Weathering Character prom, outcrop approx 5 m wide in canyon. Colour WS & FS-wispy to mottled m brown. Basal Contact covered. Bedding Character wispy to mottled. Bed Parting Thickness min 30 cm, max 1.0 m, mode 0.5 m. Composition ls. Sedimentary Structures wispy and mottled bedding, high-amplitude stylolites. Fossils 1% ossicles, tr <1cm wide disarticulated brachs, tr solitary coral, in situ 2 cm wide colonial coral 4.5 m abu, minor thick-shelled brachs as found in section I 13.0 m abu. Misc bitumenous odour, well developed subvertical joint pattern. Ka2 Sample/Slab Description (of colonial coral), fresh surface colour; wk dk olive-brown (10YR 4/2) and minor vlt yellowish orange (10YR 7/3), sedimentary structures; minor high-amplitude stylolites, irregularly-shaped mottles to 2 cm in size are elongate parallel to bedding, composition; 5% articulated ostracods, 10% ostracod frags, tr stick bryozoans, tr favositid corals. 58% microspar, 5% spar, 2% white chert, 15% f xyn dolomite is concentrated in mottles, 5% porosity along stylolites and fractures, misc; subvertical spar-filled fractures terminate at stylolites. Rock Name: mottled sl sparry/dolomitic ostracodal biomicrosparite. Ka2a Sample/Slab Description (taken 4.5 m abu), fresh surface colour; wk dk olive-brown (10YR 4/2) and minor wk vlt yellowish orange (10YR 7/2), sedimentary structures; wispy dolomitic mottles, low-amplitude stylolites, composition; 5% ostracod frags, 5% articulated pentamerid brachs 50 mm in size w/ 5 mm thick valves. 65% microspar, 5% spar, 20% f xyn dolomite (30μm mode) is mainly concentrated in dolomitic mottles, 5% porosity along stylolites and between xtals in the dolomitic mottles. Rock Name: mottled sl sparry/dolomitic biomicrosparite.
BASE OF UNIT 52.00 TOP OF UNIT 68.25 THICKNESS 16.25

UNIT K3. Rec covered interval (now approx 100-150 m upstream from start of section).
BASE OF UNIT 68.25 TOP OF UNIT 74.95 THICKNESS 6.70

UNIT K4. Same as Ka2-mottled, horizontal 'tubes' on bedding plane surfaces, 7.5 m abu it is less mottled, 8.0 m abu there is a 7 cm wide in-place stromatoporoid, 9.0 m abu there is a 5 cm-wide colonial coral, 9.5 m abu-solitary coral. Kb4 Sample/Slab/Thin Section Description (taken 9.5 m abu), fresh surface colour; lt olive-brown (10YR 6/3), sedimentary structures; low-amplitude stylolites, poorly-defined wispy dolomitic mottles, composition; 2% articulated ostracods to 2.5 mm in size are filled w/ spar, 20% brach frags, 2% ossicles, tr *Catenipora* frags, 3% solitary corals (to 6 mm in size), one favositid coral (1%) (50 mm by 7 mm thick). 15% peloids (composed of microspar), 20% spar, 32% f xyn dolomite is evenly distributed (sl concentrated in vague irregular wispy areas), many dolomite rhombs are lath-shaped, 5% porosity along stylolites and between xtals/gns. Minor subvertical fractures terminate at stylolites. CL; 60% dull orange-red and rare blue-luminescent fluorite after dolomite, calcite (including fossils) is non-luminescent. Rock Name: peloidal/sparry/fossiliferous f xyn dolostone.
BASE OF UNIT 74.95 TOP OF UNIT 87.55 THICKNESS 12.60

UNIT K5. Weathering Character prom 50 m wide outcrop. Composition same as previous unit except is calc dolostone. Unit K5 is a ls 10 m abu, calc dolostone 13 m abu, ls 14 and 25 m abu. Fossils poorly preserved solitary corals, colonial corals 7.5 m abu, brachs (1 cm in size). Smooth-shelled brachs (2-3%) and colonial corals to 10 cm wide 9 m abu. Large gastropod in scree 13.45 m abu. Kb5 Sample/Slab/Thin Section Description (sample of brachs and corals 7.5 m abu), fresh surface colour; mottled vlt orangy yellow (2.5Y 7/3) and wk dk brownish olive (2.5Y 4/2), sedimentary structures; 30% irregularly-shaped dolomitic mottles, low-amplitude stylolites, composition; 5% favositid corals to 30 mm in size, tr ostracods to 1.5 mm, 10% disarticulated brach valves to 2 mm thick, tr solitary coral to 5 mm in size, 2%

stromatoporoids to 30 mm in size, 33% peloids (composed of microspar), 15% spar, 20% f xyn dolomite is concentrated in irregularly-shaped mottles, most of the dolomite rhombs are lath-shaped, tr chalcedony, 10% porosity between xtals/gns, especially in dolomitic mottles where calcified dolomite has been preferentially leached. CL; dolomite luminesces a very dull orange-red although there is rare blue-luminescent fluorite after dolomite, calcite is non-luminescent except for complex-zoned spar filling pores. Rock Name: dolomitic biopelsparite. Kb5a Scree Sample Description (contains a gastropod 13.45 m abu), fresh surface colour; wk vdk olive-brown (10YR 3/2), gastropod curves slightly, has a max width of 1 cm and a length of 7 cm.
BASE OF UNIT 87.55 TOP OF UNIT 116.50 THICKNESS 28.95

UNIT K6. Rec covered interval. Base of next unit is approx equivalent to the base of Jb5, the first major ledge former w/ 2 thin capping beds. This unit dips to the east approx 20 m across the valley.
BASE OF UNIT 116.50 TOP OF UNIT 222.50 THICKNESS 106.00

N. FIELD AND SAMPLE DESCRIPTIONS FOR SECTION L, MEASURED IN 1984.

Locality: 26.5 km SW of Cape Crauford on coast.
Latitude: 73°33'30"N.
Longitude:85°20'30"W.

The base of unit L2 is taken as the contact between members A and B of the Baillarge Formation.
The base of L1 is taken as equivalent to section P at 81 m.

UNIT L1. Weathering Character rec covered interval. Basal Contact sealevel is assigned 0 m in this section.
BASE OF UNIT 0.00 TOP OF UNIT 3.00 THICKNESS 3.00

UNIT L2. This unit was described approx 100 m west of the coast. Weathering Character prom cliff-former. Colour WS and FS-lt gy w/ yellow wisps. Basal Contact covered. Bedding Character wispy. Bed Thickness 0.5 m. Composition microsparitic ls w/ very low porosity, 5-10% fossils. Sedimentary Structures irregular mottles. Fossils 5-10%, one orthoconic nautiloid (sampled) is oriented approx 320° on a bedding plane, large orthocones (0.5 m long) 10.6 m abu, 3% disarticulated brachs (0.5 to 1 cm modal size), solitary coral (2 cm in size) 12 m abu. Misc probable clay content defines bedding. L2 Sample/Slab Description (taken 3.2 m abu), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; 10% small irregularly-shaped dolomitic mottles, composition; 20% dasyclad algae are cylinder-shaped w/ walls perforated by 'tubes', are up to 2 mm in diameter and have lengths to 3.5 mm though some have a more complicated morphology, tr gastropods, 3% ossicles, 5% brach frags, tr spar-filled ostracods to 2.5 mm in size, tr dasyclads(?) have a 5-walled star-shaped axial canal. 40% microspar, 5% spar, 1% pyrite along stylolites and in part replacing dasyclad walls, 2% residue along stylolites, 15% f xyn dolomite (25μm mode), 10% interxyn porosity. Rock Name: sl sparry/dolomitic dasyclad-rich biomicrosparite. Sample L2a taken for conodonts. L2b Sample/Slab/Thin Section Description fresh surface colour; vwk m olive-brown (10YR 5/1), sedimentary structures; low-amplitude stylolites, composition; 5% dasyclad algae (some are in a chain), 5% undifferentiated bioclastic mat'l, 5% ostracod frags. 15% micrite, 30% microspar, 15% m-c xyn spar fills concave-up brach valves, 20% f xyn dolomite occurs alongside stylolites, some dasyclads have been preferentially dolomitized. 5% porosity along stylolites and between xtals/gns in dolomitic mottles. CL; pervasive bright orange-luminescent calcite. Rock Name: micritic/sparry/dolomitic biomicrosparite. L2c Sample/Slab/Thin Section Description (taken 10 m abu), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; low-amplitude stylolites, composition; 15% dasyclads (several types)

and dasyclad frags, some in part replaced by f xyn spar, 5% ossicles, tr gastropods, tr ostracods to 2 mm in size, 5% ostracod frags, tr solitary corals, 1% plicated brach valve frags. 20% micrite, 36% microspar, 3% spar fills articulated ostracods, 1% pyrite is concentrated along stylolites and replaces some fossil frags, 15% aphano-f xyn dolomite is concentrated beside stylolites but is evenly distributed between stylolites, also fills microporosity in ossicles. 2% interxyn porosity near stylolites. CL; pervasive bright orange-luminescence except for a few fossil frags. Rock Name: mottled micritic/dolomitic dasyclad-rich biomicrosparite. L2d Sample/Slab Description (taken 15 m abu), fresh surface colour; wk m olive-brown (10YR 5/1), composition; 30% *Syringopora* skeleton, tr stick bryozoa, 1% ossicles, 66% microspar between corallites, 30% f xyn spar fills corallites, 3% f xyn pyrite, partly replaces skeleton. Rock Name: *Syringopora* w/ a microsparite 'matrix'.
BASE OF UNIT 3.00 TOP OF UNIT 18.30 THICKNESS 15.30

UNIT L3. Weathering Character prom, partly covered from 0.7 to 5.0 m abu, travelled 50 m downstream. Colour WS & FS-as for L2, mottles weather a rust colour. Basal Contact planar abrupt. Bedding Character mottled. Bed Thickness massive to thick bedded. Composition ls. Sedimentary Structures 10% wispy mottles (lighter in colour), minor high-amplitude stylolites. Fossils 2-3% brachs and ossicles. L3 Sample/Slab/Thin Section Description (taken 0.7 m abu), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; low-amplitude stylolites, minor high-amplitude stylolites accentuated w/ residue to 50μm thick, irregularly-shaped dolomitic mottles (about 1 cm in size), mottles are bounded by stylolites that bifurcate laterally, some are at right angles to bedding, composition; 10% ossicles (some pentagonally-sided), tr dasyclads, 10% ostracod frags, minor articulated ostracods to 1.5 mm, tr brachs, bryozoans and gastropods (to 0.5 mm in size). 15% micrite, 31% microspar, 10% spar, 1% disseminated pyrite, 15% vf-f xyn dolomite is concentrated in mottles, 5% evenly distributed dolomite. Calcified dolomite is com as composite microspar replacing dolomite rhomb xtal cores and especially as microspar rims around dolomite cores. 3% porosity along and near stylolites. Misc tr subvertical fractures terminate at stylolites, some of which have residues similar to stylolites. CL; pervasive bright orange luminescence except for fossils. Rock Name: dolomitic mottled sparry/micritic biomicrosparite. Sample L3a taken for conodonts.
BASE OF UNIT 18.30 TOP OF UNIT 28.00 THICKNESS 9.70

UNIT L4. Weathering Character rec covered interval.
BASE OF UNIT 28.00 TOP OF UNIT 30.50 THICKNESS 2.50

UNIT L5. Weathering Character prom. Colour WS and FS-as for L3, sl greenish (malachite?). Basal Contact covered. Bedding Character mottled. Composition mottled ls as for L3, uniform throughout, tr malachite(?). Sedimentary Structures mottles, faint subvertical slickensides 38.0 m abu. Fossils none. L5 Sample/Slab/Thin Section Description (taken 0.6 m abu), fresh surface colour; wk m olive brown (10YR 5/2), sedimentary structures; 10% dolomitic wisps/mottles w/ low-amplitude stylolites passing through them, composition; 5% dasyclad algae, 2% ossicles, 10% ostracod frags, tr articulated ostracods to 1.5 mm in size, many of the fossils have been dolomitized. 20% micrite, 23% microspar, 10% spar, tr pyrite, 10% f xyn dolomite (25μm mode) is concentrated in wispy-shaped mottles, 15% dolomite is evenly distributed between mottles, 5% porosity along stylolites and between xtals in dolomitic mottles, misc; minor subvertical fractures terminate at stylolites. CL; bright orange-luminescence except for fossil frags. Rock Name: mottled dolomitic/sparry/micritic biomicrosparite. L5a Sample/Slab Description (taken 4.5 m abu w/ malachite(?) stain), fresh surface colour; wk m olive brown (10YR 5/2), sedimentary structures; low-amplitude stylolites and irregularly-shaped dolomitic mottles to 2 cm in size, composition; 2% dasyclad algae, 10% ossicles. 72% microspar, 1% pyrite, 10% dolomite is concentrated in mottles and between subvertical fractures, in places mottle boundaries are subvertical fractures, 5% porosity along stylolites and in dolomitic mottles, misc; subvertical fractures terminate at stylolites. Rock Name: mottled dolomitic ossicle-rich biomicrosparite. L5b Sample/Slab Description (taken 19.0 m abu), fresh surface colour; wk m olive brown (10YR 5/2) w/ wk

vlt yellowish orange (10YR 7/2) dolomitic mottles, sedimentary structures; low-amplitude stylolites are accentuated by 25μm thick residue, stylolites com form upper or lower boundary of dolomitic mottles, composition; 3% dasyclad algae, 10% ossicles (some pentagonally-sided), tr gastropods. 57% microspar, tr spar along stylolites, tr pyrite, 25% f xyn dolomite (35μm mode), 5% porosity along stylolites/fractures and between xtals in dolomitic mottles, misc; subvertical fractures com terminate at stylolites. Rock Name: mottled dolomitic ossicle-rich biomicrosparite. Sample L5c taken from 19.0 to 22.5 m abu. L5d Sample/Slab/Thin Section Description (taken 27 m abu), fresh surface colour; wk dk olive brown (10YR 4/2) and wk vlt yellowish orange (10YR 7/2) dolomitic mottles, sedimentary structures; low-amplitude stylolites are accentuated by thin black residue, irregularly-shaped and variously oriented cm-sized dolomitic mottles are developed around stylolites and subvertical fractures, composition; 10% dasyclad algae, tr gastropods to 1 mm in size, 3% ossicles, tr echinoderm stems to 3.5 mm long, 1% articulated ostracods to 1 mm in size, tr pyrite, 5% ostracod frags. 15% micrite, 41% microspar, 20% f xyn dolomite (50μm mode) is concentrated in mottles which consist of sparry f xyn dolomite, 5% vf-f xyn dolomite is evenly distributed, the boundaries of the dolomite rhombs are com replaced by microspar, porosity occurs along stylolites/fractures (5%) and between xtals (5%) in the dolomitic mottles, misc; minor subvertical fractures terminate at stylolites. CL; bright orange luminescence except for tr fossil frags, dolomite luminesces red. Rock Name: mottled dolomitic/micritic biomicrosparite. L5e Sample/Slab Description (rep litho sample taken 29.5 m abu), fresh surface colour; wk m olive brown (10YR 5/2) w/ wk vlt yellowish orange (10YR 7/2) spar mottles, sedimentary structures; low-amplitude stylolites are accentuated by limonite-coloured residue, 15% mottles (to 2 cm in size) are composed of spar (probably calcified dolomite), not dolomite, composition; tr gastropods, 5% dasyclad algae, 10% ossicles, 10% ostracod frags, tr articulated ostracods (<1 mm in size). 68% microspar, 2% spar fills fractures, 2% dolomite, 3% porosity along stylolites/fractures, misc; subvertical fractures terminate either at mottles or stylolites. Rock Name: spar (calcified dolomite?)-mottled biomicrosparite. L5f Sample/Slab Description (taken 36.5 m abu), fresh surface colour; wk m olive brown (10YR 5/2) ls w/ wk vlt yellowish orange (10YR 7/2) dolomitic mottles, sedimentary structures; low-amplitude stylolites, cm-sized irregularly-shaped mottles, composition; tr gastropod frags (1 is high-spired and 2 mm long), 1% articulated ostracods to 2 mm in size, 5% ostracod frags, 3% dasyclad algae. 51% microspar, 25% f xyn dolomite (30μm mode) is concentrated in mottles, 15% porosity between xtals especially in dolomitic mottles, misc; subvertical fractures terminate at stylolites. Rock Name: mottled dolomitic fossiliferous microsparite. L5g Sample/Slab/Thin Section Description (taken 39.4 m abu), fresh surface colour; wk m olive-brown (10YR 5/2) w/ wk vlt yellowish orange (10YR 7/2) dolomitic mottles, sedimentary structures; low-amplitude stylolites, composition; 1% dasyclad algae, 5% ossicles, 49% microspar, 30% f xyn dolomite (30μm mode) (concentrated in mottles), 15% interxyn porosity in mottles. Rock Name: mottled dolomitic ossicle-bearing microsparite.
BASE OF UNIT 30.50 TOP OF UNIT 72.25 THICKNESS 41.75

UNIT L6. Weathering Character rec, covered. Misc moved from outcrop along creek to Admiralty Inlet coastal cliffs.
BASE OF UNIT 72.25 TOP OF UNIT 76.10 THICKNESS 3.85

UNIT L7. Weathering Character prom, complete exposure except for partial cover between 35.9 & 40.2 m abu. Mottles weather out preferentially. Colour WS-lt grey w/ buff and rust mottles. FS-m grey w/ lt grey and buff mottles. Basal Contact covered. Bedding Character mottles are elongate subparallel to bedding, mainly massive beds (thicker than 4 m). Bed/Lam Thickness min 0.8 m, max 4.0 m. Composition ls w/ approx 30% mottles. Fossils 1-3% ossicles w/ base at 0.9 m abu, 2-5 mm diameter, small 5 mm-sized solitary corals, echinoderm stems (to 1 cm long). Favositid coral 41.5 m abu, orthocone w/ 7 cm diameter 66.9 m abu, large spar xtals (to 4 mm). Orthocone 112.9 m abu, oriented approx 45° on a bedding plane. Sedimentary Structures tr high-amplitude stylolites 45.7 m abu. Misc subvertical joints w/ subvertical slickensides on some joints. Joints are lined w/ white dolomite(?). From base of unit to 23.9 or more abu the rock is remarkably homogeneous. Section L above 38.9 m abu

was continued approx 75 m upstream, a small plateau at 123.4 m abu. L7 Sample/Slab/Thin Section Description (rep litho sample 1.4 m abu), fresh surface colour; mottled olive brown (10YR 5/2) and wk vlt yellowish orange (10YR 7/2), sedimentary structures; low-amplitude stylolites, dolomitic mottles are bounded by stylolites, composition; 5% ossicles, 10% undifferentiated shell frags, 25% dasyclad algae of various types to 2 mm in size, tr ostracods to 1 mm. 10% micrite, 20% microspar, 5% spar, tr pyrite, 15% vf xyn dolomite is concentrated in mottles, porosity is distributed as 5% along stylolites and 5% between xtals, misc; subvertical fractures terminate at stylolites. Rock Name: mottled dolomitic/micritic/sl sparry dasyclad-rich biomicrosparite. CL; bright orange-luminescent calcite, dolomite is non-luminescent. Sample L7a taken for conodonts (0 to 22.9 m abu). L7b Sample/Slab Description (taken 3.4 m abu), fresh surface colour; wk m olive brown (10YR 5/2) w/ wk vlt yellowish orange (10YR 7/2) dolomitic mottles, sedimentary structures; low-amplitude stylolites, irregularly-shaped dolomitic mottles are elongate subparallel to bedding, composition; 5% ossicles some of which are pentagonally-sided, 10% dasyclad algae, 10% ostracod frags, 1% articulated ostracods to 1 mm in size, tr gastropods to 0.5 mm in size. 50% microspar, 9% f xyn dolomite (30μm mode) is concentrated in mottles, 5% dolomite is evenly distributed between mottles, 10% interxyn porosity in mottles and along stylolites/fractures, misc; subvertical fractures terminate at stylolites. Rock Name: mottled dolomitic biomicrosparite. L7c Sample/Slab Description (taken 9.9 m abu), fresh surface colour; wk m olive brown (10YR 5/2) w/ wk vlt yellowish orange (10YR 7/2) dolomitic mottles, sedimentary structures; low-amplitude stylolites and 25% dolomitic mottles, composition; 5% ossicles, 5% ostracod frags, tr articulated ostracods to 1 mm in size, 3% dasyclad algae, tr gastropods to 1 mm in size. 47% microspar, 25% f xyn dolomite (40μm mode) is concentrated in dolomitic mottles, 5% evenly distributed f xyn dolomite, 10% porosity along stylolites/fractures and between xtals in dolomitic mottles. Rock Name: mottled dolomitic biomicrosparite. L7d Sample/Slab/Thin Section Description (taken 19.6 m abu), wk m olive-brown (10YR 5/2) w/ wk vlt yellowish orange (10YR 7/2) dolomitic mottles, sedimentary structures; low-amplitude stylolites and irregularly-shaped mottles are subparallel to bedding, stylolites pass through the middle of the mottles, composition; 1% gastropods to 1.5 mm in size, 5% ossicles (not dolomitized in the dolomitic mottles), 15% dasyclad algae, 10% ostracod frags, 1% articulated ostracods to 1 mm in size. 20% micrite, 7% microspar, 1% f xyn spar fills ostracods, 21% f xyn dolomite (40μm mode) is concentrated in mottles, 5% f xyn dolomite is evenly distributed between mottles, 15% porosity along stylolites and between xtals in dolomitic mottles, misc; subvertical fractures terminate at stylolites. CL; pervasive bright orange-luminescent calcite, dolomite luminesces bright red. Rock Name: mottled dolomitic/sl microsparitic dasyclad-rich biomicrite. L7e Sample/Slab Description (taken 41.5 m abu), fresh surface colour; wk m olive brown (10YR 5/2), sedimentary structures; 5% dolomitic mottles partly replace coral, composition; 100% favositid coral, corallites are hexagonal and 1 mm wide, f-m xyn spar fills corallites, 5% f xyn dolomite (30μm mode). Rock Name: mottled sl dolomitic favositid coral. L7f Sample/Slab/Thin Section Description (taken 45.7 m abu), fresh surface colour; wk m olive brown (10YR 5/2) and vlt yellowish orange (10YR 7/3) spar (calcified dolomite) mottles, sedimentary structures; low-amplitude stylolites, tr high-amplitude stylolites, irregularly-shaped cm-sized spar mottles are elongate subparallel to bedding, composition; 5% articulated ostracods to 2 mm in size, 5% ostracod frags, tr high-spired gastropods to 2 mm in size, 15% dasyclad algae, tr solitary corals to 1.5 mm in size, 25% peloids (composed of microspar). 15% micrite, 20% microspar, 10% f xyn spar fills subvertical fractures, articulated ostracods and replaces original dolomite in mottles, 2% f xyn dolomite (mottles are spar and probably calcified dolomite), 3% porosity along fractures and stylolites, misc; minor subvertical fractures terminate at mottles. CL; pervasive orange-luminescent calcite, dolomite luminesces a brighter orange. Rock Name: mottled sparry (calcified dolomite) micritic dasyclad-rich biopelmicrosparite. L7g Sample/Slab Description (taken 64.9 m abu), wk m olive brown (10YR 5/2) w/ wk vlt yellowish orange (10YR 7/2) dolomitic mottles, sedimentary structures; low-amplitude stylolites, 15% cm-sized irregularly-shaped dolomitic mottles, composition; 5% ossicles (some pentagonally-sided), 5% dasyclad algae, 5% ostracod frags, tr articulated ostracods to 1.5 mm in size, 2% high-spired gastropods to 2 mm long, 1% gastropod frags, tr spoke-shaped dasyclad(?), 1 solitary coral is

70 mm long w/ a 30 mm diameter calyx. 52% microspar, 2% spar along subvertical fractures, 15% f xyn dolomite (35μm mode) in mottles, 5% evenly distributed vf-f xyn dolomite, 3% porosity along stylolites and fractures, 5% porosity in dolomitic mottles, misc; minor subvertical fractures terminate at stylolites. Rock Name: mottled dolomitic (vf-f xyn) biomicrosparite. L7h Sample/Slab Description (taken 63.5 m abu), fresh surface colour; wk m olive brown (10YR 5/2) w/ wk xlt yellowish orange (10YR 8/2) calc (calcified dolomite) mottles, sedimentary structures; irregularly shaped cm-sized calc (calcified dolomite) mottles, low-amplitude stylolites, composition; one 9 cm-wide *Catenipora* colony (10%), one 8 mm-diameter solitary coral, 10% ossicles (some pentagonally-sided), tr articulated ostracods to 2 mm in size, 3% dasyclads, tr high-spired gastropods to 2 mm in size, tr 1 mm thick shell frag. 72% microspar, 2% silica partly replaces coral, 5% interxyn porosity in calc mottles. Rock Name: mottled (calc) ossicle-rich biomicrosparite. L7i Sample/Slab Description (taken 74.2 m abu), fresh surface colour; m olive brown (10YR 5/3) and wk xlt yellowish orange (10YR 8/2) calc mottles, sedimentary structures; low-amplitude stylolites, 20% cm-sized calc mottles, minor vugs to 3 mm in size in mottles, composition; 10% dasyclad algae, 5% articulated ostracods to 1.5 mm in size, 5% ostracod frags, tr gastropods, one solitary coral w/ a 2 mm diameter calyx. 68% microspar (in part makes up mottles and probably is calcified dolomite), 1% spar fills articulated ostracods, 2% disseminated limonite(?), 5% vf xyn dolomite partly replaces fossil frags, 5% vugs in cream-coloured microsparitic patches, 5% porosity along stylolites and between xtals. Rock Name: calc mottled sl dolomitic biomicrosparite. L7j Sample/Slab Description (taken 83.9 m abu), fresh surface colour; wk m olive brown (10YR 5/2) w/ wk vlt yellowish orange (10YR 7/2) dolomitic mottles, composition; 15% ossicles, tr star-shaped ossicle w/ a circular axial canal, tr high-spired gastropods to 1.5 mm in size, 5% dasyclad algae. 40% microspar, 20% f xyn dolomite concentrated in dolomitic mottles. Fossil frags in mottles are only in part replaced, 10% vf-f xyn dolomite is also evenly distributed between mottles, 3% dolomite partly replaces fossil frags, 10% porosity along stylolites. Rock Name: mottled dolomitic (vf-f xyn) biomicrosparite. L7k Sample/Slab Description (taken 98.4 m abu), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; cm-sized cream-coloured microsparitic mottles, low-amplitude stylolites, composition; 3% articulated ostracods to 1.5 mm in size, tr plicated brachs, 3% ossicles, one tabular stromatoporoid (recrystallized to spar and in part dolomitized). 78% microspar (microspar in mottles is probably calcified dolomite), 2% spar replaces/fills the stromatoporoid, 1% limonite(?), 3% f xyn dolomite (25μm mode) partly replaces stromatoporoid, 15% porosity between xtals in calc mottles and along fractures/stylolites, misc; high concentration of subvertical 'hairline' fractures. Rock Name: calc mottled fossiliferous microsparite. L7L Sample/Slab Description (taken 106.1 m abu), fresh surface colour; wk m olive brown (10YR 5/2) w/ wk xlt yellowish orange (10YR 8/2) mottles, sedimentary structures; low-amplitude stylolites are accentuated by limonitic(?) residue, dolomitic microspar (calcified dolomite?) mottles, composition; 5% ossicles (in part dolomitized), 5% ostracod frags, tr spar-filled articulated ostracods to 1 mm in size, 3% dasyclads. 51% microspar (in mottles this may be calcified dolomite), 1% spar along fractures, 20% f-m xyn dolomite is concentrated in the dolomitic mottles, 15% porosity along stylolites/fractures and between xtals in the dolomitic mottles, misc; subvertical fractures terminate at low-amplitude stylolites. Rock Name: mottled dolomitic biomicrosparite. L7m Sample Description (taken 113.4 m abu), sedimentary structures; dolomitic mottles, local brecciation (up to 2 cm-sized clasts), composition; one solitary coral frag on its side w/ an 8 cm diameter calyx, frag is 9 cm long but originally may have been 15 or more cm long. Rock Name: mottled dolomitic coralline biomicrosparite crackle breccia. L7n Sample/Slab/Thin Section Description (taken 113.4 m abu), fresh surface colour; wk m olive-brown (10YR 5/2) w/ vwk xlt yellowish orange (10YR 8/1) dolomitic mottles, sedimentary structures; low-amplitude stylolites, subvertical fractures terminate at stylolites, 20% cm-sized irregularly-shaped dolomitic microspar mottles, composition; 3% dasyclad algae, 3% articulated ostracods to 1 mm in size, 10% ostracod frags, 15% ossicles (tr pentagonally-sided), tr gastropods to 1 mm in size, one solitary coral frag to 40 mm in size. 52% microspar (the microspar in the mottles may be calcified dolomite), tr pyrite, 2% white chert, 10% f xyn dolomite (30μm mode), 5% porosity along stylolites. CL; dull

orange-luminescent calcite, dolomite luminesces bright orange except for rare blue-luminescent fluorite after dolomite. Spar along fractures is bright orange-luminescent. Rock Name: mottled dolomitic biomicrosparite. Sample L7o taken for conodonts from 111.9 to 115.9 m abu. Sample L7p taken for conodonts from 131.9 to 136.9 m abu.
BASE OF UNIT 76.10 TOP OF UNIT 213.00 THICKNESS 136.90

UNIT L8. Weathering Character prom, dolomitic mottles weather out in relief. Colour WS & FS-m brownish grey w/ ochre patches, some malachite stain on bedding planes, elongate wispy mottles as for L7. Basal Contact trans over 1-2 m. Bedding Character wispy, planar irregular. Bed Thickness approx 0.5 m, but bedding is poorly defined. Composition dolomitic ls. Sedimentary Structures mottles. Fossils 3-5% pentamerid brachs, (3-4 cm in size) w/ valves to 4 mm thick, articulated and disarticulated, <1% tabular stromatoporoids (5 cm thick and 15 cm long), 1-2% ossicles, one 2 cm long echinoderm stem 3 m abu, (both in and out of place), favositid corals become larger and more abundant towards top of unit, the largest (approx 0.5 m by 0.4 m) is overturned, pressure solution may locally have dissolved as much as 3 cm of coral along its outer margin. Chain coral approx 4 cm in size 4 m abu, solitary coral (1-5 cm) 3 m abu, syringoporid corals (to 20 x 8 cm in size) 4 m abu. Misc bitumenous odour. L8 Sample/Slab Description (of favositid coral 3.9 m abu), fresh surface colour; wk m olive brown (10YR 5/2), composition; 100% favositid coral is filled w/ 75% f xyn spar. 10% microspar, 10% f-m xyn dolomite replaces the coral. 5% fracture and interxyn porosity. Rock Name: 100% favositid coral (overall dolomitic ls). L8a Sample/Slab Description (ossicles 4.0 m abu), fresh surface colour; wk m olive brown (10YR 5/2), sedimentary structures; low-amplitude stylolites, composition; 15% ostracod frags, tr articulated ostracods to 1.7 mm, 5% ossicles, many are pentagonally-sided and have a single circular axial canal. 67% microspar, 3% spar fills fractures, 5% f xyn dolomite in dolomitic microspar mottles (microspar may be calcified dolomite), 5% porosity along stylolites and between xtals in mottles. Rock Name: mottled sl dolomitic biomicrosparite. L8b Sample/Slab Description (of 8 by 2 cm-sized coral taken 3 m abu), sedimentary structures; low-amplitude stylolites, composition; coral resembles *Syringopora* but has 8 septa that join in the axial region and well-defined tabulae, 50% microspar between spar-filled corallites, 5% dolomite partly replaces the skeleton, tr porosity, misc; extensively fractured. Rock Name: sl dolomitic/sparry syringoporid biomicrosparite. L8c Sample/Slab (Scree) Description (taken of favositid coral 4 m abu), fresh surface colour; wk m olive brown (10YR 5/2) and wk vlt yellowish orange (10YR 7/2), composition; 100% favositid coral (corallites filled w/ 60% f-m xyn spar, 10% silica replaces coral, 5% interxyn porosity, especially within corallites). Rock Name: mottled siliceous f-m xyn sparite (100% favositid coral). L8d Sample/Slab (Scree) Description (taken of phaceloid coral approx 4 m abu), fresh surface colour; wk m olive brown (10YR 5/2), sedimentary structures; low-amplitude stylolites are accentuated by limonitic(?) residue, 15% wispy dolomitic f xyn spar mottles occur along stylolites, composition; tr dasyclad algae, 5% ostracod frags, tr articulated ostracods to 5 mm in size (contain geopetal 'spar-over-microspar' fabric), 5% tabular overturned stromatoporoids, 40% phaceloid coral on its side w/ many septa joining axially. 31% microspar, 5% spar along fractures, 4% white silica partly replaces coral skeletons, 5% f xyn dolomite is concentrated in dolomitic spar mottles (spar is probably calcified dolomite), 5% porosity along stylolites and fractures, misc; minor subvertical fractures terminate at stylolites. Rock Name: mottled sl dolomitic/sl silicified/sl sparry coralline biomicrosparite. L8e Sample/Slab Description (of pentamerid brachs taken approx 2 m abu), fresh surface colour; wk m olive brown (10YR 5/2), sedimentary structures; low-amplitude stylolites, vugs to 15 mm in size (partly dissolved stromatoporoid), composition; 3% spar-filled ostracods to 2 mm in size, 3% ossicles, tr plicated brach frags, 20% pentamerid brach valves to 45 mm in size (15 mm thick valves). 54% microspar, 10% spar along subvertical fractures, 3% white silica partly replaces stromatoporoid skeletons. 10% porosity along stylolites, mottles and vugs, misc; extensive 'hairline' subvertical fractures terminate at stylolites. Rock Name: sparry biomicrosparite.
BASE OF UNIT 213.00 TOP OF UNIT 220.50 THICKNESS 7.50

UNIT L9. Weathering Character semi-rec, platy scree. Colour WS-sl greenish lt grey, FS-m

brown. Basal Contact trans over 10 cm. Bedding Character planar, lam/bedded and fissile. Bed/Lam Thickness variable, min <1 mm, max 3 cm (parting thickness). Composition f xyn shaley ls. Sedimentary Structures planar lam, mudcracks, ripple marks, and synaeresis cracks. Burrows on bedding surfaces, similar to mottles in units L7 & 8. Fossils ostracods. L9 Sample/Slab Description (of leperditid ostracods, taken 1 m abu), fresh surface colour; wk lt olive brown (10YR 6/2), composition; 25% disarticulated leperditid ostracod valves to 9 mm in size (up to 100μm thick), some of which have been crushed, ostracod valves are microsparitic. 5% microspar, 2% pyrite, tr clay films, 63% vf xyn dolomite, 5% porosity. Rock Name: sl microsparitic ostracodal vf xyn dolostone. L9a Sample/Slab Description fresh surface colour; 2.5Y 5/2 (wk m brownish olive), sedimentary structures; symmetrical ripple marks (40 mm wavelength and 3 mm amplitude). 10% spar, 2% pyrite accumulations to 1 mm in size, 3% interxyn f xyn pyrite, 80% silt-sized quartz gns, 5% porosity. Rock Name: sl pyritic/sparry (f xyn) quartz siltstone. L9b Sample/Slab Description fresh surface colour; wk lt olive brown (10YR 6/2), sedimentary structures; polygonal desiccation cracks, low-amplitude stylolites, composition; 5% disarticulated ostracod valves to 6 mm in size, 1% spar-filled articulated ostracods. 49% microspar, tr pyrite, 5% silt-sized quartzose gns, clay(?), 25% vf xyn dolomite, 15% porosity along stylolites and between xtals/gns. Rock Name: sl silty (quartzose)/dolomitic ostracod-bearing microsparite (orignally detrital calcilutite). L9c Sample/Slab/Thin Section Description fresh surface colour; vlt yellowish-orange (2.5Y 7/3), sedimentary structures; minor low-angle cross-lams, 7 cm-wide polygonal mudcracks, low-amplitude stylolites, composition; tr ostracods to 7 mm in size. 38% microspar, 5% spar, 2% hematite(?) in part altered to limonite(?), 40% quartzose silt (30μm mode). 5% porosity along stylolites, 10% porosity between xtals especially near stylolites. CL; 20% blue-luminescent quartz, 40% non-luminescent dolomite, 40% orange-luminescent calcite, tr yellow-luminescent silicates(?). Rock Name: sl sparry/microsparitic quartzose siltstone. BASE OF UNIT 220.50 TOP OF UNIT 223.00 THICKNESS 2.50

UNIT L10. Weathering Character semi-prom. Colour WS-m brownish grey w/ irregular ochre patches on joints, FS-lt brownish grey. Basal Contact covered. Bedding Character mottled, planar irregular, bedding is less apparent 10 m abu and is massive 12.0 m abu. Bed/Lam Thickness min 2 cm, max 10 cm, mode 5 cm. Composition ls w/ approx 0.3 mm xtal size, some malachite staining 34.5 m abu, at 64.0 m abu-partly covered but still mottled ls (small plateau). Sedimentary Structures mottle concentration decreases upwards to 10 m abu, then again mottled at 21 m abu, mottles are very distinct 35 m abu (25-35% buff mottles in a brown grey ls). Fossils abundant solitary corals (approx 3 cm long, 1 cm diameter), favositid corals 55 m abu, disarticulated pentamerid brachs to 3 cm in size, some corals overturned, at 30.5 m abu there is a macluritid gastropod (approx 4 cm diameter), large disarticulated pentamerid brachs occur 33.0 m abu, recrystallized orthocone approx 10 cm long 47.5 m abu, more brachs and ossicles 64.0 m abu and from 69.0 to 71.3 m abu echinoderm stems w/ star-shaped axial canals. Misc small plateau 47.5 m abu. L10 Sample/Slab Description (of a solitary and colonial coral, and rare disarticulated ostracods), fresh surface colour; wk lt olive brown (10YR 6/2), sedimentary structures; low-amplitude stylolites, composition; 10% ostracod frags, 1% spar-filled articulated ostracods to 1 mm in size, one 35 mm long solitary coral (on its side). 24% microspar, 20% f xyn spar is concentrated along subvertical fractures, 10% silt-sized quartz gns, 25% vf-f xyn dolomite, 10% porosity along stylolites and fractures and between xtals/gns. Rock Name: silty (quartzose)/dolomitic/sparry ostracodal biomicrosparite. L10a Sample/Slab Description (litho sample w/ favositid coral), fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; low-amplitude stylolites, composition; 1% solitary corals (to 7 mm in size) the septa of which are lined w/ f xyn dolomite and filled w/ f-m xyn spar, 10% stromatoporoids, one is grown on a brach valve (now overturned), another is tabular and partly silicified (50 x 5 mm), 1% spar-filled articulated ostracods to 2 mm in size. One favositid coral (10%) and one plicated brach valve are both 35 mm in size. 38% microspar, 15% f-m xyn spar along 'hairline' fractures, 15% f xyn dolomite, 10% porosity along stylolites and between xtals, misc; minor subvertical fractures terminate at stylolites. Rock Name: dolomitic/sparry biomicrosparite. Sample L10b taken for conodonts from 0 to 4.3 m abu. L10c Sample/Slab Description (taken 12.5 m abu),

fresh surface colour; wk lt olive brown (10YR 6/2), sedimentary structures; irregular dolomitic mottles, composition; 25% ostracod frags, one echinoderm stem frag, 3% ossicles, one solitary coral frag. 42% microspar, 5% spar, 20% f xyn dolomite (30μm mode), 5% porosity between xtals. Rock Name: sl sparry/dolomitic ostracodal biomicrosparite. L10d Sample/Slab Description (brachs), fresh surface colour; overall wk m olive brown (10YR 5/2), sedimentary structures; low-amplitude stylolites along which dolomite is concentrated. This defines wispy dolomitic stringers elongate parallel to bedding, composition; 20% brach frags, 15% pentamerid brachs to 25 mm in size (most are disarticulated), 3% tabular stromatoporoids (36 by 10 mm in size), one has grown around an echinoderm stem, one solitary coral (4 mm diameter w/ approx 18 septa), tr *Catenipora*. 22% peloids (composed of microspar), 15% f xyn spar between peloids, 15% f xyn dolomite (40μm mode) concentrated in mottles, 10% porosity between xtals especially in dolomitic mottles. Rock Name: mottled dolomitic/brachiopodal biopelsparite. L10e Sample/Slab (Scree) Description (taken 37.0 m abu), fresh surface colour; wk m olive brown (10YR 5/2) w/ wk vlt yellowish orange (10YR 7/2) dolomitic mottles, sedimentary structures; low-amplitude stylolites are accentuated by irregular dolomitic mottles that 'skirt' the articulated brachs, composition; 20% brachs to 35 mm (some articulated valves to 2 mm thick), 5% tabular stromatoporoids, minor plicated brachs, tr dolomitic *Catenipora* w/ corallites filled w/ spar, 2% ostracods (to 1 mm in size), 2% ossicles, tr gastropods. 10% microspar, 1% white chert nodules to 2 mm in stromatoporoids, 45% f xyn dolomite (50μm mode) is concentrated in dolomitic mottles, misc; minor subvertical fractures terminate at stylolites. Rock Name: mottled fossiliferous/microsparitic f xyn dolostone. Sample L10f taken for conodonts from 46.0 to 55.0 m abu. L10g Sample/Slab Description (brachs taken from 55.3 to 55.6 m abu), fresh surface colour; wk m olive brown (10YR 5/2) w/ vlt yellowish orange (10YR 7/2) dolomitic mottles, sedimentary structures; low-amplitude stylolites are accentuated by limonitic residue, composition; 25% mainly disarticulated costate pentamerid valves to 55 mm long and 5 mm thick (most are pedicle valves), a second type of brach is small (1 cm) and c plicate, tr ostracods, 10% brach frags, tr sponge spicules, tr echinoderm stems to 5 mm long, 1% ossicles, some circular but w/ pentagonally sided axial canals, tr gastropods, tr solitary corals. 11% microspar, 15% c xyn spar lines fractures, tr malachite and pyrite, 3% scattered white chert 'nodules' 1 mm in size, extensive subvertical fractures terminate at stylolites, some are microfaults, 15% f-m xyn dolomite (50μm mode), 20% interxyn porosity (especially in dolomitic mottles). Rock Name: mottled dolomitic/brachiopodal biomicrosparite. L10h Sample/Slab Description (brachs taken from 60.0 to 61.5 m abu), fresh surface colour; wk m olive brown (10YR 5/2) w/ wk vlt yellowish orange (10YR 7/2) dolomitic mottles, sedimentary structures; low-amplitude stylolites are accentuated with limonitic(?) residue, composition; 20% pentamerid brach valves (to 45 mm in size and 2 mm thick), 2% ostracods to 1 mm in size, 2% ossicles, one solitary coral, 15% microspar, 1% vc xyn spar lines vugs, tr white silica and tr pyrite, 45% f xyn dolomite is pervasive except below convex-up brach valves, 15% porosity along stylolites and between xtals (especially in dolomitic mottles). Rock Name: mottled microsparitic/brachiopodal f xyn dolostone. Sample L10b taken for conodonts from 0 to 4.3 m abu. L10f taken for conodonts from 46.0 to 55.0 m abu.
BASE OF UNIT 223.00 TOP OF UNIT 294.30 THICKNESS 71.30

UNIT L11. Weathering Character rec covered interval.
BASE OF UNIT 294.30 TOP OF UNIT 295.00 THICKNESS 0.70

UNIT L12. Weathering Character semi-prom. Colour WS-m grey, FS-lt brown. Basal Contact covered. Bedding Character inversely-graded breccia (laterally continuous for at least 100 m but grades into scree). Composition crackle to rubble breccia w/ ls clasts, clast size min 1 cm, max 15 cm, mode 5-10 cm, 85% clasts, 15% 'matrix', clasts are ang and become larger (to 20 cm) approx 4 or 5 m abu. Sedimentary Structures high-amplitude stylolites, some of the larger clasts are planar lam. L12 Sample/Slab/Thin Section Description (taken from the base of the unit), fresh surface colour; breccia, overall wk m olive brown (10YR 5/2) w/ some wk vdk olive brown (10YR 3/2) clasts, sedimentary structures; vugs between clasts to 3 mm in size, high-amplitude stylolites where breccia clasts meet, composition; 70% breccia

clasts (min 2 mm, max 45 mm, mode 20 mm), consist mainly of f xyn sparite, 5% sl dolomitic sparite clasts, one of which displays a 'solution microunconformity' in which the central lams of one clast have dissolved. This has resulted in an ang relationship between the laminae of the clast, 'matrix' consists of f-m xyn sparite and com has inclusion-rich cores and clear rims. CL; 20% orange-luminescent calcite overgrowths on spar. FLUOR; pervasive thick fluorescent rhombic spar overgrowths on peloids. Rock Name: c calcirudite-sized rubble breccia: dolomitic f xyn sparite 'clast'-f to m xyn sparite 'matrix' breccia. Sample L12a taken for conodonts from the basal 4 m of the unit.
BASE OF UNIT 295.00 TOP OF UNIT 313.00 THICKNESS 18.00

UNIT L13. Weathering Character rec covered interval.
BASE OF UNIT 313.00 TOP OF UNIT 319.50 THICKNESS 6.50

UNIT L14. Weathering Character semi-prom. Colour WS and FS-grey, mottled rust and buff, greenish. Basal Contact covered. Bedding Character mottled. Composition ls, flowstone at or near the contact between mottled ls and a small breccia pipe. Fossils 5% of rock, orthocone at 24 m abu, approx 1% pentamerid brachs as for lower units, in place favositid coral, approx 1% stromatoporoids. Sample L14 taken for conodonts.
BASE OF UNIT 319.50 TOP OF UNIT 350.00 THICKNESS 30.50

The present erosion surface is estimated to occur 27 m below the Cape Crauford Formation i.e., 27 m of the uppermost part of the Baillarge Formation is eroded at this locality.

O. FIELD AND SAMPLE DESCRIPTIONS FOR SECTION M, MEASURED IN 1984.

Locality: 30 km SW of Cape Crauford on the coast. The base of section M is taken as sealevel.
Latitude: 73°31'51"N.
Longitude: 85°26'W.

Section M is entirely in the Ship Point Formation.
Section M at 27.5 m is taken to be equivalent to section MX at 0 m (there is a general northward dip to the strata).

UNIT M1. Weathering Character semi-prom. Colour WS brownish grey w/ white mottles. FS brownish grey and tan w/ white mottles. Basal Contact sealevel (Admiralty Inlet). Bedding Character irregular mottles. Bed Thickness min 10 cm, max 50 cm, mode 20 cm. Composition c xyn dolostone, modal xtal size 0.25 mm (0.4 mm 10 m abu). Sedimentary Structures mottles. Fossils approx 1% poorly preserved chain corals(?). M1 Sample/Slab/Thin Section Description (taken at sealevel), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; low-amplitude stylolites, composition; 90% m xyn dolomite (125μm mode) w/ anhedral intergrown texture, 10% porosity along stylolites/fractures and between xtals. CL; uniform moderate orange-red luminescent dolomite, clear vug-lining dolomite is zoned. Rock Name: m xyn dolostone. M1a Sample/Slab Description (taken at sealevel), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; low-amplitude stylolites, composition; 85% m-c xyn dolomite, 15% porosity along stylolites/fractures and between xtals, misc; minor subvertical fractures. Rock Name: m-c xyn dolostone. Misc outcrop forms steps along bedding planes, dolomitic(?) subvertical veins. This unit is very well indurated.
BASE OF UNIT 0.00 TOP OF UNIT 30.00 THICKNESS 30.00

P. FIELD AND SAMPLE DESCRIPTIONS FOR SECTION MX, MEASURED IN 1984.

Locality: 29.7 km SW of Cape Crauford on the coast.
Latitude: 73°32'06"N.
Longitude: 85°25'W.

The basal 10 m of section MX is in the Ship Point Formation.
Section MX at 63.4 m is taken as equivalent to section N at 0 m.

UNIT MX1. Weathering Character rec covered interval. Basal Contact sealevel (0 m).
BASE OF UNIT 0.00 TOP OF UNIT 3.00 THICKNESS 3.00

UNIT MX2. Weathering Character semi-prom. Colour WS-m brownish grey, FS-m brown. Basal Contact covered. Bedding Character mottled, planar irregular. Bed/Lam Thickness min 8 mm, max 10 cm. Composition dolostone. Sedimentary Structures mottles. Fossils one high-spired 3 cm-long gastropod (1.5 m abu) and one recrystallized orthoconic nautiloid.
BASE OF UNIT 3.00 TOP OF UNIT 6.85 THICKNESS 3.85

UNIT MX3. Weathering Character rec covered interval.
BASE OF UNIT 6.85 TOP OF UNIT 7.55 THICKNESS 0.70

UNIT MX4. Description as for MX2.
BASE OF UNIT 7.55 TOP OF UNIT 8.00 THICKNESS 0.45

UNIT MX5. Weathering Character semi-rec. Colour WS-buff, FS-lt brownish grey. Basal Contact planar, trans over 10 cm. Bedding Character planar. Bed Thickness min 1 cm, max 10 cm, mode 5 cm. Composition dolostone. Sedimentary Structures minor mottles. Fossils recrystallized. MX5 Sample/Slab Description (taken 10 cm abu), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; low-amplitude stylolites, composition; 85% f-m xyn dolomite (40μm mode), 15% interxyn porosity. Rock Name: f-m xyn dolostone.
BASE OF UNIT 8.00 TOP OF UNIT 8.50 THICKNESS 0.50

UNIT MX6. Weathering Character semi-rec. Colour WS-interbedded dk grey, m brownish grey, FS-lt brownish grey w/ m dk grey interbeds. Basal Contact trans, planar over 10 cm. Bedding Character planar irregular. Bed Thickness min 3 mm (shale), max 10 cm, mode NA. Composition dolostone w/ minor organic(?) black shale, tr black chert lenses. MX6 Sample/Slab Description (rep litho sample taken 0.3 m abu), fresh surface colour; overall lt olive brown (10YR 6/3), sedimentary structures; low-amplitude stylolites are accentuated by black carb(?) film, minor bioturbation, planar to irregular lams, composition; tr ostracods to 1.3 mm long, tr microspar and pyrite, 85% f-m xyn dolomite (50μm mode), 15% porosity along stylolites and between xtals. Rock Name: f-m xyn dolostone.
BASE OF UNIT 8.50 TOP OF UNIT 10.00 THICKNESS 1.50

The top of unit MX6 is taken as the contact between the Ship Point Formation and member A of the Baillarge Formation.

UNIT MX7. Weathering Character rec covered interval. Sample MX7 (from scree) is a 12 cm-sized moderately well preserved *Receptaculites* in mottled dolomitic microsparite, colour is wk m olive brown (10YR 5/2) w/ vlt orangy yellow (2.5Y 7/3) mottles.
BASE OF UNIT 10.00 TOP OF UNIT 88.50 THICKNESS 78.50

UNIT MX8. Weathering Character prom. Colour WS-m grey w/ irregular rusty mottles on joint surfaces. FS-lt brown. Basal Contact covered. Bedding Character interbedded ls and argil ls, wavy irregular. Bed Thickness 1 mm, max 20 cm. Composition 2 rock types, the first is fissile argil(?) ls w/ 1-3 mm thick lams; the second is ls (microsparite). Argil ls beds alternate w/ ls beds on a scale of approx 5-20 cm, but this is extremely variable. Sedimentary

Structures convex-up structures occur in the shaley units. Misc one of the microsparitic units is a ls pebble conglomerate approx 3 cm thick 0.5 m abu. Samples MX8 taken for conodonts. MX8a Sample/Slab Description (litho sample of ls pebble conglomerate taken 90.0 m abu), fresh surface colour; overall wk m olive brown (10YR 5/2), sedimentary structures; intraclasts, composition; 80% flat rd intraclasts to 65 mm long (composed of microspar to dolomitic microspar), many of the dolomite rhombs in both intraclasts and matrix have been calcified. Some intraclasts consist of ostracodal biomicrospar and the 'matrix' consists of dolomitic (f-m xyn) f-c xyn spar w/ 3% ossicles between clasts, 10% dolomite, 10% porosity between clasts, misc; minor slickensides on bedding plane surfaces. Rock Name: dolomitic intrasparite.
BASE OF UNIT 88.50 TOP OF UNIT 90.80 THCKNESS 2.30

UNIT MX9. Weathering Character semi-rec. Colour WS-lt grey, FS-sl bluish lt grey. Basal Contact planar abrupt. Bedding Character 1 mm thick planar lams. Composition argil ls.
BASE OF UNIT 90.80 TOP OF UNIT 91.00 THICKNESS 0.20

UNIT MX10. Weathering Character semi-prom. Colour WS and FS variable, m brownish grey. Bedding Character sl wavy. Bed Thickness 15 mm mode. Litho dolomitic ls.
BASE OF UNIT 91.00 TOP OF UNIT 91.30 THICKNESS 0.30

UNIT MX11. Weathering Character semi-prom. Colour WS-variable m grey rd intraclasts in a lt grey matrix. Basal Contact abrupt, sl wavy, erosionally truncates very thin beds including imbricated intraclasts of unit MX10. Bedding Character sl wavy. Bed Thickness equals unit thickness. Composition ls pebble conglomerate, max pebble size is approx 8 cm w/ a mode of 1.5 cm, pebbles are generally elongate, poorly sorted and imbricated. Sedimentary Structures intraclasts (approx 5 cm in size) in basal 5 cm. Intraclasts fine up in basal 10 cm although there are larger clasts in the upper 25 cm. Fossils one gastropod and some disarticulated brachs. MX11 Sample/Slab/Thin Section Description (taken 10 cm abu), fresh surface colour; overall wk lt olive brown (10YR 6/2), sedimentary structures; low-amplitude stylolites and minor dolomitic mottles (to 5 mm in size), composition; 25% intraclasts to 3 mm in size, one contains disarticulated ostracod frags, 15% brach frags, 5% ossicles, one articulated ostracod is 2 mm in size. 5% micrite, 20% microspar, tr pyrite, 15% vf-f xyn dolomite is concentrated in mottles along stylolites and 10% is evenly distributed between mottles, minor calcified dolomite. 5% porosity along subvertical fractures and stylolites. CL; pervasive bright orange luminescence except for dull orange-luminescent fossil frags. Rock Name: sl micritic/dolomitic brachiopodal intramicrosparite. MX11a Sample/Slab/Thin Section Description (taken near the base of the unit), fresh surface colour; overall wk lt olive brown (10YR 6/2), sedimentary structures; low-amplitude stylolites, some intraclasts have been truncated by erosion, composition; 60% rd intraclasts to 60 mm long and 10 mm thick consist of microspar or dolomitic (f-m xyn) microspar, matrix is dolomitic (f xyn) microspar to microsparitic f xyn dolomite w/ 5% micrite. 10% ostracods, 2% ossicles, tr brachs and gastropods, 5% f-c xyn spar, 3% disseminated f xyn pyrite, overall 10% f xyn dolomite. 5% porosity along stylolites and fractures, high interxyn porosity near stylolites, misc; subvertical fractures terminate at stylolites. CL; pervasive bright orange-luminescent calcite except for fossil frags, 5% blue-luminescent quartz. Rock Name: dolomitic sl sparry/sl micritic ostracodal intramicrosparrudite.
BASE OF UNIT 91.30 TOP OF UNIT 91.65 THCKNESS 0.35

UNIT MX13. Weathering Character semi-prom. Colour WS-brownish grey, FS-brown. Basal Contact wavy. Composition mottled ls.
BASE OF UNIT 91.65 TOP OF UNIT 91.85 THICKNESS 0.20

UNIT MX14. Weathering Character prom. Colour WS-lt to m grey w/ orangy yellow patches, FS-m brown. Basal Contact planar abrupt. Bedding Character planar, locally wavy, approx 5 cm wavelength. Bed Thickness min 4 cm, max 15 cm, (thick beds at base), beds thin to the top of the unit. Composition microsparite. Sedimentary Structures high-amplitude stylolites.

Misc pyrolusite(?) dendrites on joint faces approx 35 cm abu. MX14 Sample/Slab Description (taken 10 cm abu, pyrolusite(?) dendrites), fresh surface colour; wk lt olive brown (10YR 6/2), sedimentary structures; minor low-amplitude stylolites, tr vugs to 2 cm are lined w/ c xyn spar, composition; tr ostracod frags to 2 mm in size. 82% microspar, 3% spar, 10% evenly distributed f xyn dolomite, 5% porosity along fractures. Rock Name: dolomitic microsparite.
BASE OF UNIT 91.85 TOP OF UNIT 92.55 THICKNESS 0.70

UNIT MX15. Weathering Character prom. Colour WS-buff, FS-lt grey. Basal Contact trans, wavy over approx 15 cm. Bedding Character convex-up structures within breccia, overlie 40 cm of breccia that contains stylolites w/ amplitudes to at least 6 mm, wavy (0.6 m wavelength, 20 cm amplitude). The convex-up structures are in turn overlain by an inversely-graded breccia containing stylolites w/ amplitudes to at least 7 mm (accentuated by dk residue). Bed/Lam Thickness min 1 cm, max 2 cm. Composition microsparite, locally brecciated. Sedimentary Structures high-amplitude (to 7 mm) stylolites and convex-up structures in breccia. MX15 Sample/Slab/Thin Section Description (rep litho and conodont sample), fresh surface colour; wk lt olive brown (10YR 6/2), sedimentary structures; low-amplitude stylolites, porosity is high near stylolites where microspar is recrystallized to f xyn spar, composition; 50% microspar, 15% f xyn spar, 15% evenly distributed f xyn dolomite, calcified dolomite is com, 20% porosity along stylolites and fractures. A large number of subvertical fractures terminate at stylolites. CL; pervasive bright orange-luminescent calcite, 5% blue-luminescent quartz(?). FLUOR; dolomite fluoresces. Rock Name: sparry/dolomitic microsparite. MX15a Sample/Slab/Thin Section Description (rep litho sample taken approx 15 cm abu), fresh surface colour; mottled wk lt olive brown (10YR 6/2) and wk dk olive brown (10YR 4/2), sedimentary structures; high-amplitude stylolites, composition; 40% microspar, 35% f xyn spar, 15% f xyn dolomite w/ com calcified dolomite, 10% porosity along stylolites and fractures, misc; minor subvertical fractures terminate at stylolites. CL; pervasive bright orange-luminescent calcite, 3% blue-luminescent fluorite after dolomite. Rock Name: dolomitic (f xyn) sparry microsparite. MX15b Sample/Slab Description fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; tr vugs to 8 mm in size, one contains a pyritic(?) accumulation, low- and high-amplitude (to several mm) stylolites, composition; 70% microspar, 14% spar, 1% pyrite(?) (in part altered to limonite?), 15% porosity along fractures, vugs and between xtals, misc; subvertical fractures terminate at stylolites. Rock Name: sparry (f xyn) microsparite.
BASE OF UNIT 92.55 TOP OF UNIT 93.10 THICKNESS 0.65

UNIT MX16. Weathering Character prom. Colour WS & FS-buff. Basal Contact trans over 10-20 cm. Bedding Character inversely-graded breccia. Composition ls breccia w/ approx 5% chert clasts. Sedimentary Structures vugs, low- and high-amplitude stylolites. MX16 Sample/Slab/Thin Section Description (large sample taken from the base of the unit), fresh surface colour; breccia, variable, overall wk lt olive-brown (10YR 6/2), sedimentary structures; low-amplitude stylolites accentuated w/ limonitic residue, composition; breccia, 70% clasts have irregular stylolitic boundaries and have sbang-sbrd shapes, clast size range is 2-40 mm, mode 20 mm, clasts include 25% polyxyn (f-c xyn) quartz (w/ high interxyn porosity), 45% microsparite and pelsparite clasts, 15% 'matrix' is f xyn sparite. 22% porosity is distributed as 5% along stylolites, 10% between clasts, 5% between xtals within clasts, 2% vugs, tr pyrite. CL; pervasive moderate orange-luminescent calcite, chert is non-luminescent, 3% blue-luminescent quartz. Rock Name: c calcirudite rubble breccia; polyxyn quartz-pelsparite 'clasts' in a f xyn sparite 'matrix'.
BASE OF UNIT 93.10 TOP OF UNIT 93.70 THICKNESS 0.60

UNIT MX17. Weathering Character prom. Colour WS-buff, FS-lt brown. Basal Contact trans over 1 m. Bedding Character breccia w/ rotated clasts to 1 m in size, trans to bedded strata at the top of the unit. Bed/Lam Thickness min 1 cm, max 5 cm, mode 2 cm, crackle to mosaic breccia locally. Composition ls w/ pyrolusite(?) dendrites on bedding planes. Sedimentary Structures planar irregular lams. Fossils thin-shelled disarticulated brachs (approx 5 mm in size) about 0.75 m abu. MX17 Sample/Slab Description (brach sample taken

1 m abu), fresh surface colour; mottled wk vlt yellowish orange (10YR 7/2) and wk m olive brown (10YR 5/2), sedimentary structures; low-amplitude stylolites, composition; 5% ossicles, 10% brach frags, 76% microspar, a dk grey opaque mineral (2%) w/ dendritic growth habit (pyrolusite?), 5% f xyn dolomite, 2% porosity along stylolites. Rock Name: sl dolomitic biomicrosparite. Sample MX17a taken for conodonts. MX17b (Scree) Sample Description contains a coiled nautiloid 80 mm in diameter that resembles *Curtoceras* but is more evolute.
BASE OF UNIT 93.70 TOP OF UNIT 97.00 THICKNESS 3.30

Q. FIELD AND SAMPLE DESCRIPTIONS FOR SECTION N, MEASURED IN 1984.

Locality: 29.0 km SW of Cape Crauford on the coast.
Latitude: 73°32'24"N.
Longitude: 85°25'W.

Section N is entirely within member A of the Baillarge Formation.
Section N at 0 m is taken as equivalent with section MX at 63.4 m and section N at 54 m is taken as equivalent to section P at 54.3 m.

UNIT N1. Weathering Character rec covered interval. Basal Contact sealevel (Admiralty Inlet).
BASE OF UNIT 0.00 TOP OF UNIT 1.50 THICKNESS 1.50

UNIT N2. Weathering Character prom. Colour WS & FS-lt grey w/ buff mottles. Basal Contact covered. Bedding Character 2 cm-sized mottles are elongate parallel to bedding. Bed Thickness min 15 cm, max 1.0 m, mode NA. Composition mottled ls becomes massive in the upper 0.6 m, sample N2a is very argil. Sedimentary Structures minor high-amplitude stylolites. Misc white c xyn carbonate lines joints. N2 Sample/Slab Description (taken 1.3 m abu), fresh surface colour; wk m olive-brown (10YR 5/2), sedimentary structures; minor low- & high-amplitude stylolites are accentuated by dk grey residue to 75μm thick, 30% relict dolomitic microspar/f xyn spar as mottles, composition; 20% microspar, 5% spar, tr pyrite, 60% f-m xyn dolomite, 15% interxyn porosity, misc; minor subvertical fractures terminate at stylolites. Rock Name: mottled microsparitic/sparitic f-m xyn dolostone. Sample N2a taken for conodonts.
BASE OF UNIT 1.50 TOP OF UNIT 4.25 THICKNESS 3.15

UNIT N3. Weathering Character prom. Colour WS and FS buff. Basal Contact planar, abrupt. Bedding Character planar bedded. Bed/Lam Thickness min 5 cm, max 50 cm. Composition dolostone w/ 0.1 to 0.2 mm xtal size. Sedimentary Structures planar bedded, sl irregular. N3 Sample/Slab/Thin Section Description (taken 0.6 m abu), fresh surface colour; wk vlt orangy yellow (2.5Y 7/2), sedimentary structures; low-amplitude stylolites w/ associated sl greenish clay-rich(?) wisps. composition; 2% f xyn spar between dolomite rhombs, 5% quartz replaces dolomite, 68% f xyn dolomite (40μm mode) is com leached, 25% interxyn porosity. CL; 5% blue-luminescent quartz, dolomite luminesces a bright orange. FLUOR; patchy fluorescence. Rock Name: argil f xyn dolostone.
BASE OF UNIT 4.25 TOP OF UNIT 6.10 THICKNESS 1.75

UNIT N4. Weathering Character prom. Colour WS & FS-lt brown. Basal Contact trans. Bedding Character planar bedded but grades to lam 3.9 m abu. Bed/Lam Thickness min 5 cm, max 30 cm, mode 10 cm. Composition sl calc dolostone, otherwise is similar to N3. N4 Sample/Slab Description (rep litho sample taken 1.4 m abu), fresh surface colour; vlt orangy yellow (2.5Y 7/3), sedimentary structures; irregularly-shaped mottles, composition; 15% microspar concentrated in some lams, 3% f xyn spar, 1% aphanoxyn/vf xyn pyrite, 61% f xyn dolomite (10-40μm), com and good examples of calcified dolomite (microspar replacing dolomite cores), 20% interxyn porosity. Rock Name: microsparitic f xyn dolostone. N4a

Sample/Slab Description (rep litho sample taken 6.2 m abu), fresh surface colour; wk lt olive brown (10YR 6/2), sedimentary structures; minor scouring, sample has a patterned mottle appearance (resembling wood gn), composition; 85% dololutite and vf gn dolarenite, dolomitic gns at base of one scour are vf dolarenite-sized. 15% interxyn porosity. Rock Name: interlam m dololutite and vf gn dolarenite.
BASE OF UNIT 6.10 TOP OF UNIT 13.50 THICKNESS 7.40

UNIT N5. Weathering Character semi-prom. Colour WS-interlam lt and m grey, FS-lt brown. Basal Contact planar, abrupt. Bedding Character planar lam, fissile. Bed/Lam Thickness min 2 mm, max 1 cm. Composition unfossiliferous ls w/ carb film on lams, possibly argil. N5 Sample/Slab/Thin Section Description (rep litho sample taken 30 cm abu), fresh surface colour; wk vlt orangy yellow (2.5Y 7/2), sedimentary structures; minor scours, planar-irregular lam (min 1 mm, max 10 mm), composition; 15% microspar, 5% monoxyn quartz gns, 60% dololutite to dolarenite gns (now rhombs), good examples of calcified dolomite. 20% interxyn porosity. CL; 1% uniformly scattered blue-luminescent quartz, pervasive orange-red luminescent (in part zoned) dolomite. FLUOR; cores of dolomite rhombs fluoresce. Rock Name: microsparitic/argillaceous interlam f gn dololutite to vf dolarenite. Sample N5a taken for conodonts (very argil).
BASE OF UNIT 13.50 TOP OF UNIT 14.00 THICKNESS 0.50

UNIT N6. Weathering Character prom. Colour WS & FS-lt brown. Basal Contact covered. Composition sl calc dolostone.
BASE OF UNIT 14.00 TOP OF UNIT 14.90 THICKNESS 0.90

UNIT N7. Weathering Character rec covered interval.
BASE OF UNIT 14.90 TOP OF UNIT 17.80 THICKNESS 2.90

UNIT N8. Description as for N4.
BASE OF UNIT 17.80 TOP OF UNIT 20.35 THICKNESS 2.55

UNIT N9. Weathering Character rec covered interval except for an isolated outcrop 1.65 m abu that is similar to N4.
BASE OF UNIT 20.35 TOP OF UNIT 24.80 THICKNESS 4.55

UNIT N10. Weathering Character prom. Colour WS-m grey w/ rust-coloured patches, FS-brownish grey. Basal Contact covered. Bedding Character columnar stromatolites and planar beds, individual columns to 5 cm wide, normally w/ rd elongate intraclasts between them. Composition fissile lam ls w/ parting along carb or shaley films, locally shaley in lenses approx 10 cm thick, alternating blocky and platy beds, approx 10 cm thick in top 2 m of unit. N10a Sample/Slab/Thin Section Description (rep litho sample taken from a massive bed 1.9 m abu), fresh surface colour; wk lt olive-brown (10YR 6/2) intraclasts and wk dk olive-brown (10YR 4/2) stromatolites, sedimentary structures; columnar stromatolites, many grown on large rd elongate intraclasts which range to 60 mm long and 15 mm wide. The stromatolitic columns are up to 40 mm wide and 70 mm high w/ convex-up lams, 25% intraclasts are composed of dolomitic (f-m xyn) microspar, some contain coated gns to 200μm in size (probably ooids), 25% peloids (composed of microspar) occur in the stromatolites. 10% f-m xyn spar between peloids and coated gns, 3% monoxyn quartz replaces some dolomite rhombs, overall 22% f-m xyn dolomite but is more concentrated between stromatolitic columns and between intraclasts, calcified dolomite is com as clear microspar after dolomite rhombs, in some examples dolomite crystal cores are replaced. 5% vugs to 5 mm in size, 10% porosity between peloids/xtals in the stromatolites. CL; dolomite is non-luminescent, 15% quartz gns are blue-luminescent and are concentrated between stromatolites, calcite luminesces a moderate orange. FLUOR; fluorescent scalenohedral isopachous spar cement coats fossil frags. The cement between fossil frags is non-fluorescent. Rock Name: dolomitic/intraclastic/stromatolitic pelmicrosparite. N10b Sample/Slab Description (rep litho sample taken 2.2 m abu), fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; planar

lam, low-amplitude stylolites, composition; 80% microspar, 5% f xyn spar, 5% f xyn dolomite (25μm mode), 10% porosity between xtals. Rock Name: sl dolomitic/sl sparry microsparite. Sample N10 taken for conodonts.
BASE OF UNIT 24.80 TOP OF UNIT 27.50 THICKNESS 2.70

UNIT N11. Weathering Character prom. Colour WS-m grey w/ rust-coloured patches, FS-m grey. Basal Contact planar. Composition ls intraclasts (larger than 10 cm). Fossils ossicles at top of unit. N11 Sample/Slab/Thin Section Description (rep litho sample), fresh surface colour; overall vwk dk olive-brown (10YR 4/1), composition; 59% rd intraclasts (to 65 mm long by 15 mm wide), are composed of dolomitic (f xyn) microspar or dolomitic pelmicrospar, peloids (to 75μm) have radially directed spar coatings). Some intraclasts are themselves composed of intraclasts. 15% thin-shelled brach frags between intraclasts, tr ossicles. 10% microspar, 10% f-c xyn spar between intraclasts, 1% pyrite, dolomite is mainly concentrated in intraclasts and calcified dolomite is com, 5% porosity between intraclasts. CL; a generally bright orange-luminescent calcite, 3% blue-luminescent quartz gns are concentrated in intraclasts. Rock Name: dolomitic/microsparitic/brachiopodal intrasparite.
BASE OF UNIT 27.50 TOP OF UNIT 27.75 THICKNESS 0.25

UNIT N12. Description as for N10.
BASE OF UNIT 27.75 TOP OF UNIT 28.20 THICKNESS 0.45

UNIT N13. Weathering Character prom. Description ls pebble conglomerate as for N11.
BASE OF UNIT 28.20 TOP OF UNIT 28.40 THICKNESS 0.20

UNIT N14. Weathering Character prom. Composition unit consists of N11 type ls conglomerate, N10 type fissile ls and massive ls as follows: 28.40-29.30 m; mls (massive ls), 29.3-29.65 m; ls cong, 29.65-30.25 m; fls (fissile ls), hummocky structures 1 m wide and 20 cm high, not as shaley as N10, 30.25-30.65 m; ls breccia w/ chert clasts, 30.6-33.0 m; mls, 33.0-36.0 m; dolostone, 36.0-39.0; dolomitic ls (sample N14a). Sedimentary Structures high-amplitude stylolites. N14 Sample/Slab Description (taken 1.9 m abu), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; high-amplitude (to 5 mm) stylolites, breccia clast boundaries are stylolites. The boundaries of rotated clasts are also high-amplitude stylolites. composition; breccia, but 'clasts' are difficult to distinguish from 'matrix', clasts have a max size of 27 mm, but these are themselves crackle brecciated, a mode of 10 mm is tentatively assigned, 10% of the 'clasts' consist of white chert while 65% consist of sparry microsparite w/ rare pyrite. 25% porosity. Rock Name: m calcirudite-sized crackle breccia; polyxyn quartz-sparry microsparite clast breccia. N14a Sample/Slab Description (of dolomitic ls taken 10.6 m abu), fresh surface colour; wk vlt orangy yellow (2.5Y 7/2), composition; 20% microspar, 70% f-m xyn dolomite (50μm mode), 10% interxyn porosity. Rock Name: microsparitic f-m xyn dolostone.
BASE OF UNIT 28.40 TOP OF UNIT 39.00 THICKNESS 10.60

UNIT N15. Weathering Character rec covered interval.
BASE OF UNIT 39.00 TOP OF UNIT 44.10 THICKNESS 5.10

UNIT N16. Weathering Character prom, from a distance it is a distinctive dk grey cliff-forming unit. Colour WS-tan mottles in a brown 'matrix'. FS-lt brown. Basal Contact covered. Bedding Character mottled, planar irregular. Bed Thickness min 5 cm, max 15 cm, mode 10 cm. Composition dolomitic ls, 40% mottles weather out prominently, mottle concentration varies throughout unit, 3 mm 'tubes' on bedding planes (distinct from dolomitic mottles). N16 Sample/Slab Description (taken 1.1 m abu), fresh surface colour; wk lt olive brown (10YR 6/2), sedimentary structures; low-amplitude stylolites, composition; 20% microspar, 10% spar, 65% evenly distributed f-m xyn dolomite, 5% porosity along stylolites and between xtals. Rock Name: sparry/microsparitic f-m xyn dolostone.
BASE OF UNIT 44.10 TOP OF UNIT 46.00 THICKNESS 1.90

UNIT N17. Weathering Character prom. Colour WS-purplish brown w/ tan mottles. Basal Contact planar abrupt. Bedding Character planar on a large scale, irregular on a small scale. Bed/Lam Thickness min 3 cm, max 30 cm, mode 10 cm. Composition dolostone. N17 Sample/Slab Description fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; low-amplitude stylolites, composition; 15% mostly dolomitic articulated ostracods (to 1 mm in size), 10% microspar, 3% spar, 62% f-m xyn dolomite, 10% interxyn porosity. Rock Name: ostracodal microsparitic f-m xyn dolostone. Misc well indurated.
BASE OF UNIT 46.00 TOP OF UNIT 47.00 THICKNESS 1.00

UNIT N18. Description mottled dolomitic ls.
BASE OF UNIT 47.00 TOP OF UNIT 47.40 THICKNESS 0.40

UNIT N19. Weathering Character prom. Composition calc dolostone as for N17. Sedimentary Structures high-amplitude stylolites.
BASE OF UNIT 47.40 TOP OF UNIT 47.70 THICKNESS 0.30

UNIT N20. Weathering Character semi-prom. Composition complex interbedded ls and dolostone, calc dolostone and dolomitic ls.
BASE OF UNIT 47.70 TOP OF UNIT 49.80 THICKNESS 2.10

UNIT N21. Weathering Character prom overhanging ledge. Colour WS-lt brown w/ rusty buff patches on joint surfaces, FS-lt brown. Basal Contact planar abrupt. Bedding Character 2 cm-sized mottles. Composition dolostone. Misc well indurated. N21 Sample/Slab/Thin Section Description fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; 50% porous irregularly-shaped m xyn dolomite (in mottles) in f xyn dolostone, relict high-amplitude stylolites (to 3 mm), tr vugs are lined w/ limpid dolomite and filled w/ spar, tr limpid dolomite has been replaced by spar. 3% f xyn spar, overall 77% dolomite w/ 20% porosity, but interxyn porosity is 35% in the porous m xyn dolomitic mottles, m xyn dolomite rhombs are com corroded, probably a result of the dissolution of calcified dolomite. CL; dolomite (including limpid vug-lining dolomite) is moderately orange-red luminescent. Zoned orange-luminescent spar fills vugs. Rock Name: mottled f-m xyn dolostone.
BASE OF UNIT 49.80 TOP OF UNIT 54.20 THICKNESS 4.40

R. FIELD AND SAMPLE DESCRIPTIONS FOR SECTION O, MEASURED IN 1984.

Locality: 28.3 km SW of Cape Crauford.
Latitude: 73°32'54"N.
Longitude: 85°24'W.

UNIT O1. Description probably at the same stratigraphic level as L10h, breccia pipes in mottled ls contain clasts of mottled ls 5 mm to 50 cm in size, sharp vertical contact. Clasts of mottled ls contain brachs. Samples O1, O1a of pentamerids and breccia, O1b of flowstone. O1 Sample/Slab Description fresh surface colour; wk vlt yellowish orange (10YR 7/2) and wk lt olive brown (10YR 6/2), sedimentary structures; low-amplitude stylolites, 15% dolomitic mottles (elongate parallel to bedding), composition; tr solitary corals w/ 2 mm diameter calyx, 10% brach frags, 3% favositid corals to 35 mm in size w/ spar-filled corallites, 1% stromatoporoids to 25 mm in size, tr gastropods, 5% ostracod frags, tr ossicles. 66% microspar, 15% f-m xyn dolomite, misc; minor subvertical fractures terminate at stylolites, tr white chert. Rock Name: mottled dolomitic biomicrosparite, locally crackle breccia (1 cm modal clast size). O1a Sample/Slab Description fresh surface colour; mottled wk vlt yellowish orange (10YR 7/2) and wk m olive brown (10YR 5/2), sedimentary structures; low-amplitude stylolites, 15% f xyn spar (calcified dolomite) mottles, composition; tr ossicles, tr gastropods, 5% brach frags, 3% ostracod frags, tr favositid coral frags. 60% peloids (80μm mode and

composed of microspar), 20% flowstone (spar) to 15 mm wide lines subvertical fractures, single xtals 0.7 mm by 6 mm long, oriented at right angles to the walls of fractures, has banded appearance, 12% microspar. Rock Name: sparry (f xyn) mottled biopelmicrosparite. O1b Sample/Slab/Thin Section Description fresh surface colour; overall wk lt olive brown (10YR 6/2), sedimentary structures; breccia, low-amplitude stylolites, calc mottles, composition; 1% ostracods to 1 mm in size, tr ossicles, 25% pentamerid brachs, 2% solitary corals w/ up to 4 mm diameter calyx, 1% stromatoporoids to 10 mm in size, tr favositid coral clasts, tr *Catenipora* frag in clast. 46% peloids (80μm mode, range 75-125μm), 2% chalcedony, some spar in clasts shows cleavage deformation (kinking), 10% f xyn dolomite is concentrated in clasts, extensively calcified dolomite, 13% porosity is distributed as 5% partially dissolved clasts, 5% interxyn porosity, dolomitic clasts have higher porosity because of dissolved calcified dolomite, some clasts are entirely fossils, 'matrix' is very limonitic, max clast size 15 mm, 3 mm mode. Rock Name: dolomitic/microsparitic biopelsparite 'clast'-sparry microsparite 'matrix' rubble breccia.
BASE OF UNIT 0.00 TOP OF UNIT 5.00 THICKNESS 5.00

S. FIELD AND SAMPLE DESCRIPTIONS FOR SECTION P, MEASURED IN 1984.

Locality: 29 km SW of Cape Crauford, approx 300 m west of base camp.
Latitude: 73°32'48"N.
Longitude: 85°23'W.

The upper part of member A of the Baillarge Formation is included in section P.
The base of unit P1 is taken as equivalent to the base of unit N21 and the base of unit L1 is taken as equivalent to section P at 84 m.

UNIT P0. Unit heights given continue on from section N but are not heights asl at section P because of the intervening dip of the strata.
BASE OF UNIT 0.00 TOP OF UNIT 49.80 THICKNESS 49.80

UNIT P1. Weathering Character prom cliff-forming overhanging ledge. Colour WS-buff, FS-lt brown. Basal Contact abrupt, planar. Bedding Character unbedded, but subhorizontal mottles. Composition c xyn dolostone w/ tr chert nodules. Sedimentary Structures 40% mottles. Fossils a 4 cm-wide trilobite pygidium and a gastropod were observed in buff platey ls in scree 4.2 m abu. P1 Sample/Slab Description (taken 4.2 m abu), fresh surface colour; m olive-brown (10YR 5/3), sedimentary structures; tr vugs, composition; 10% f-m xyn spar between 62% f-m xyn dolomite (125μm mode) rhombs, 25% interxyn porosity, 3% vugs to 3 mm in size. Rock Name: mottled sparry f-m xyn dolostone. P1a Scree Sample Description 75 mm diameter planispiral gastropod cf. *Maclurites*.
BASE OF UNIT 49.80 TOP OF UNIT 54.20 THICKNESS 4.40

UNIT P2. Weathering Character semi-prom. Composition dolostone as for unit P1 but sl calc. Bedding Character indistinct mottles and planar irregular bedding. Bed Thickness min 10 cm, max 30 cm, mode 20 cm. Composition dolostone as for P1 but sl calc and bedded. Fossils poorly preserved ossicles.
BASE OF UNIT 54.20 TOP OF UNIT 58.80 THICKNESS 4.60

UNIT P3. Weathering Character semi-prom. Colour WS-buff w/ lt buff mottles, FS-lt to m brown. Basal Contact abrupt, irregular. Bedding Character indistinct planar irregular and mottled. Bed/Lam Thickness min 5 cm, max 20 cm, mode NA. Composition c xyn dolostone. Sedimentary Structures 25% mottles are approx 3 mm in size. P3 Sample/Slab Description (taken 15 cm abu), fresh surface colour; wk lt olive-brown (10YR 6/2), sedimentary structures; low-amplitude stylolites, composition; tr ossicles, 10% f xyn spar, 85% f-m xyn dolomite, 5% interxyn porosity. Rock Name: mottled sparry f-m xyn dolostone.

BASE OF UNIT 58.80 TOP OF UNIT 59.35 THICKNESS 0.55

UNIT P4. Weathering Character semi-prom. Colour WS & FS-lt grey. Basal Contact planar abrupt, irreg. Bedding Character planar irregular. Bed/Lam Thickness min 8 cm, max 15 cm, mode 10 cm. Composition dolostone. Sedimentary Structures 15-30% 5 mm diameter mottles.
BASE OF UNIT 59.35 TOP OF UNIT 61.00 THICKNESS 1.65

UNIT P5. Weathering Character rec covered interval.
BASE OF UNIT 61.00 TOP OF UNIT 62.00 THICKNESS 1.00

UNIT P6. Weathering Character prom. Colour WS & FS-m brown. Basal Contact covered. Bedding Character planar. Bed/Lam Thickness min 20 cm, max 1.2 m. Composition dolostone as for unit P2, tr chert replaces some mottles. Sedimentary Structures indistinct mottles. Misc white dolomite xtals on joint surfaces.
BASE OF UNIT 62.00 TOP OF UNIT 68.30 THICKNESS 6.30

UNIT P7. Weathering Character semi-prom. Colour WS-m brown & buff. FS-m brown & grey. Basal Contact abrupt, planar. Bedding Character planar irregular. Bed/Lam Thickness min 20 cm, max 1 m (for the thick beds), min 5 cm, max 20 cm (for the thin beds). Composition mottled dolostone w/ approx 1% chert nodules, interbedded thick and thin units. Sedimentary Structures high-amplitude stylolites. P7 Sample/Slab Description (rep litho sample taken 5.3 m abu), fresh surface colour; wk lt olive brown (10YR 6/2), sedimentary structures; 1 mm-sized 'tubes', relict high-amplitude stylolites, some accentuated w/ dk brownish black residue to 0.3 mm thick, composition; 10% ostracod valve ghosts, some to 7 mm long, tr gastropods, tr spar fills vugs, 85% f-m xyn dolomite, 5% interxyn porosity. Rock Name: ostracodal f-m xyn dolostone. P7a Sample/Slab/Thin Section Description (from a 50 cm thick chert bed taken 6.45 m abu), fresh surface colour; wk vlt yellowish orange (10YR 7/2) and vwk xlt yellowish orange (10YR 8/1) sedimentary structures; low-amplitude stylolites, minor high-amplitude stylolites are accentuated w/ black residue to 125μm thick, composition; 30% ostracod valves (to 1 mm in size) in 50 mm-wide chert nodules, tr spar fills fractures, 25% lt grey aphano/vf xyn chert nodules to 30 mm wide, 25% f xyn dolomite xtals (25μm size mode), most of which are lath-shaped. CL; a moderagely orange-red luminescent dolomite, chert is non-luminescent. FLUOR; minor fluorescent cherty patches. 20% interxyn porosity. Rock Name: chert-nodule-bearing ostracodal f xyn dolostone.
BASE OF UNIT 68.30 TOP OF UNIT 75.80 THICKNESS 7.50

Unit 9 immediately overlies unit 7.

UNIT P9. Weathering Character semi-prom. Colour WS-buff, FS-lt brown. Basal Contact planar abrupt, irregular on a cm scale. Bedding Character planar, occasional ripple lam, convex-up structures (70 cm wide and 5 cm high). Bed/Lam Thickness min 10 cm, max 25 cm but variable. Composition dolostone w/ some (<1%) chert nodules, trans to fissile and shaly upwards. Sedimentary Structures approx 3 mm-sized tube-shaped mottles, some bed surfaces are 100% mottled but are variable in different beds. Oscillatory ripple marks w/ 15 cm wavelength and 1 cm amplitude trend approx 80° (plus or minus 15°), <1% vugs are lined w/ carbonate xtals. The chert nodules, which are dk grey and up to 4 cm thick occur at the base of the convex-up structures. Misc extremely coarsely crystalline spar (crystals larger than 1 cm in size) line joints. P9 Sample/Slab Description (taken from ripple interval 11.45 m abu), fresh surface colour; wk m olive brown (10YR 5/2), sedimentary structures; low-amplitude stylolites, planar sl wavy lam, composition; 3% microspar, 82% f-m xyn dolomite, 15% interxyn porosity. Rock Name: f-m xyn dolostone. P9a Sample/Slab/Thin Section Description (black chert nodule taken 9.4 m abu), fresh surface colour; wk xdk olive brown (10YR 2/1), sedimentary structures; chert nodule frag 65 mm long and 27 mm thick (sampled), composition; 5% ostracod frags to 1 mm in size, 5% m xyn spar fills fractures and is in part replaced by dolomite and chert, 50% chert is aphano/vf xyn, misc; banding in chert cross-cuts original lam, 5% f xyn pyrite in chert, a high concentration of subvertical fractures

are filled w/ m xyn spar, 30% evenly distributed vf-f xyn well-developed dolomite rhombs in chert nodule, 5% porosity along fractures. CL; chert is non-luminescent except for 1% moderately blue-luminescent xtals, bright orange-luminescent spar fills fractures. Rock Name: sl sparry/dolomitic/ostracodal aphano to vf xyn chert nodule. Misc above unit P9 there is a thick grey scree-covered interval.
BASE OF UNIT 75.80 TOP OF UNIT 90.00 THICKNESS 14.20

T. FIELD AND SAMPLE DESCRIPTIONS FOR SECTION Q, MEASURED IN 1984.

Locality: 3.8 km southwest of major stream flowing into Prince Regent Inlet at Peak Valley.
Latitude: 73°30'06"N.
Longitude: 88°05'W.

The base of unit Q2 is taken as the base of the upper member of the Cape Crauford Formation.
The base of Q22 is correlated with the top of R21.

UNIT Q2. Weathering Character starting near base of obvious resistant unit=marker bed at base of cliffs about 106 m asl. Prom cliff-former, distinctive marker bed, 20 m long isolated outcrop. Colour WS-buff w/ dk grey chert, FS-vlt brownish grey w/ dk grey chert. Basal Contact covered. Bedding Character wavy irregular (0.5 m wavelength, 5 cm amplitude), small scale irregular, in part interbedded, locally has some large kink-banded structures and very local breccia (one 15 cm-long contorted and rotated 'clast'). Bed/Lam Thickness min 2 mm, max 30 mm, mode 10 mm. Composition microsparite w/ 1% chert nodules parallel to bedding, minor chert beds, approx 1% breccia. Sedimentary Structures convex-up structures (50 cm wide and 10 cm high), high-amplitude stylolites throughout, brecciated chert beds. Fossils none. Misc chert nodules, max 0.8 m long and 5 cm thick, some fractured and crackle brecciated, locally dipping 4° north. Unit Q1 represents 106 m of unmeasured section. The base of Q2 is near the base of the most obvious resistant unit (marker bed). This section starts at the base of Q2 which is assigned the value 0.00 m. Q2 Sample/Slab Description (of chert nodule), fresh surface colour; wk vlt yellowish orange (10YR 7/2) and vwk dk olive brown (10YR 4/1) chert, sedimentary structures; chert nodule 60 mm in size, is fractured and brecciated in places (5% fracture porosity). Rock Name: nodular chert. Sample Q2a taken for conodonts. Q2b Sample/Slab Description fresh surface colour; wk lt olive brown (10YR 6/2) (litho sample of breccia), sedimentary structures; low-amplitude stylolites and minor high-amplitude stylolites are accentuated by dk brown residue, locally brecciated, minor vugs to 5 mm between clasts, dk grey chert nodule (fractured) to 60 mm in size, sl brecciated but there is no ghost breccia texture in the chert. In addition, stylolites skirt the nodule. Locally crackle (stylo-) breccia. In some cases rotated clasts have stylolites developed on their 'ends' which results in stylolites within clasts meeting clast-bounding-stylolites at right angles, composition; 70% microspar, 5% f-c xyn spar fills fractures, misc; extensive subvertical fractures, many of which terminate at stylolites, 15% evenly distributed f xyn dolomite, 10% porosity along stylolites and fractures. Rock Name: sl sparry/dolomitic microsparite (locally crackle or stylo-breccia).
BASE OF UNIT 0.00 TOP OF UNIT 3.00 THICKNESS 3.00

UNIT Q3. Weathering Character rec covered interval.
BASE OF UNIT 3.00 TOP OF UNIT 6.80 THICKNESS 3.80

UNIT Q4. Weathering Character prom. Colour WS-buff, FS-buff to brown. Basal Contact covered. Bedding Character grades up from crackle to mosaic breccia, uniform clast size (1-2 cm mode?) throughout. Composition ls clast breccia w/ fractured 3-5% chert nodules, very ang clasts, 70% clasts, 30% 'matrix', low porosity. Sedimentary Structures lam preserved in some originally large clasts, convex-up structures, high-amplitude (to 30 mm) stylolites.

Black chert nodules to 10 cm in size have been brecciated (mosaic breccia). Fossils none. Misc chert nodules show ghost lam. Samples Q4 taken for conodonts.
BASE OF UNIT 6.80 TOP OF UNIT 9.20 THICKNESS 2.40

UNIT Q5. Weathering Character prom. Colour WS and FS-buff. Basal Contact wavy (1 m wavelength, 20 cm amplitude), abrupt. Bedding Character planar. Bed Thickness min 5 cm, max 40 cm, mode 10 cm. Composition dolostone w/ 0.2 mm modal xtal size, calc from 1.6 to 1.7 m abu. Sedimentary Structures low-amplitude stylolites. Fossils a very poorly preserved favositid coral. Samples Q5 taken for conodonts. Q5a Sample/Slab Description (a small litho sample taken 0.8 m abu), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; low-amplitude stylolites, composition; 3% f xyn spar in lath-shaped xtal aggregates (corroded spar) concentrated along stylolites, 3% f xyn spar, 82% f-m xyn dolomite, 15% interxyn porosity. Rock Name: f-m xyn dolostone.
BASE OF UNIT 9.20 TOP OF UNIT 11.20 THICKNESS 2.00

UNIT Q6. Weathering Character prom, mottles weather out in relief about 1.8 m abu. Colour WS and FS-buff. Basal Contact planar, sl irregular, trans over 5 cm. Bedding Character min 10 cm at base, grading to 1 m about 5 m abu, mottled, the upper 3.3 m of unit is massive. Composition dolostone w/ 0.2-0.3 mm xtal size, sparse fossil content. Sedimentary Structures approx 40% 2-3 cm-long mottles, minor high-amplitude stylolites. Fossils 1% ossicles (3 mm in diameter) are generally poorly preserved, favositid corals to 3 cm in size. Q6 Sample/Slab Description (rep litho sample), fresh surface colour; wk lt olive brown (10YR 6/2), sedimentary structures; low-amplitude stylolites (but some w/ thick dk brown residue), minor high-amplitude stylolites, composition; 10% ossicles, tr f xyn spar, tr chert, 75% f-m xyn dolomite, 15% interxyn porosity. Rock Name: ossicle-bearing f-m xyn dolostone.
BASE OF UNIT 11.20 TOP OF UNIT 32.20 THICKNESS 21.00

UNIT Q7. Weathering Character prom. Colour WS-buff, FS-lt brownish grey. Basal Contact irregular, trans over 20 cm. Bedding Character very sl planar bedded. Bed Thickness more than 20 cm. Composition dolostone w/ 0.4 mm-sized xtals, some carb content in irregular wispy lams, approx 25% interxyn porosity, approx 5% vugs (to 1 cm in size). Sedimentary Structures small (approx 4 mm-sized) mottles, ovoid, elongate parallel to bedding from 4.2 to 4.5 m abu, low-amplitude stylolites. Fossils solitary coral 2.5 cm by 1 cm, sl tilted 2.2 m abu, 2% ossicles. Q7 Sample/Slab Description (rep litho sample taken 2.3 m abu), fresh surface colour; wk lt olive brown (10YR 6/2), sedimentary structures; low-amplitude stylolites are accentuated by thick dk brown residue, minor vugs to 5 mm in size, composition; 10% ossicles, tr f xyn spar, 65% f-m xyn dolomite, 20% interxyn porosity, 5% vugs to 1 mm in size. Rock Name: ossicle-bearing f-m xyn dolostone. Q7 Scree Sample Description Q7 contains irregularly-shaped m xyn pyrite aggregates to 30 mm in size many of which have been altered to rusty brown minerals. Q7/8 Sample/Slab Description (sample at 3.2 m abu), fresh surface colour; wk lt olive brown (2.5Y 6/2), sedimentary structures; low-amplitude stylolites, composition; tr ostracods, 90% f-m xyn dolomite, 10% interxyn porosity, misc; minor subvertical fractures. Rock Name: f-m xyn dolostone.
BASE OF UNIT 32.20 TOP OF UNIT 36.70 THICKNESS 4.50

UNIT Q8. Weathering Character prom. Colour WS-buff w/ white mottles, FS-m grey. Basal Contact trans over 5 cm, planar. Bedding Character planar, mottled. Bed Thickness min 3 cm, between 4.6 & 6.3 m abu-min 1 cm, max 20 cm, mode 8 cm. Composition mottled dolostone w/ tr wispy carb films, xtal size approx 0.3 mm, approx 10-15% interxyn porosity, 5% vugs. Sedimentary Structures 2-3 cm-sized mottles, some filled w/ chalky mat'l, low-amplitude stylolites. Fossils one echinoderm stem (10 by 3 mm 1.4 m abu), plicated brachs. Q8 Sample/Slab Description (taken from scree 6.1 m abu), fresh surface colour; wk lt brownish olive (2.5Y 6/2), f-m xyn dolostone w/ 20% porosity, 3% pyrite xtal accumulations to 15 mm in size (pyrite xtal cubes to 1 mm in size). Q8a Sample/Slab Description (of mottled dolostone taken 8.7 m abu), fresh surface colour; wk lt olive brown (2.5Y 6/2), sedimentary structures; low-amplitude stylolites are accentuated by dk brown residue, vugs to 10 mm are

filled w/ m-c xyn spar, composition; 3% ossicles, 1% vug-filling spar, 81% f-m xyn dolomite, 15% interxyn porosity. Rock Name: f-m xyn dolostone.
BASE OF UNIT 36.70 TOP OF UNIT 46.00 THICKNESS 9.30

UNIT Q9. Weathering Character prom. Colour WS-buff, FS-lt brownish grey. Basal Contact planar, sl irregular, very abrupt, intraclastic unit in basal 20 cm. Bedding Character planar to irregular, hummocky on a large scale. Bed Thickness min 2 cm, max 20 cm, mode 5 cm. Sedimentary Structures mottled, also contains 4 mm diameter 'tubes' and some vugs. Composition dolostone w/ tr wispy carb films, 0.2 mm xtal size, low porosity. Intraclastic zone is 20 cm thick at base, ungraded and poorly sorted. Intraclasts have a 3 cm maximum size and a 4 mm mode. Sedimentary Structures mottles. Sample Q9 taken at the base of the unit.
BASE OF UNIT 46.00 TOP OF UNIT 49.30 THICKNESS 3.30

UNIT Q10. Weathering Character prom. Colour WS-buff w/ white mottles, FS-m grey. Basal Contact planar, abrupt. Bedding Character mottled. Bed Thickness min 10 cm, max 50 cm. Sedimentary Structures mottles, vugs after some mottles are filled w/ pyrite. Composition mottled sl calc dolostone is very similar to unit Q8 except for <1% pyrite cubes (and oxidized pyritic minerals to 1 cm in size in vugs formed in the lt coloured mottles), pyritic zone is approx 0.5 m thick between 1.7 and 2.2 m abu. Sedimentary Structures mottles as for Q8. Fossils a favositid coral 0.5 m abu and a 2 cm-long solitary coral (on its side) 0.7 m abu. Q10 Sample/Slab Description (taken 1.9 m abu), fresh surface colour; wk lt brownish olive (2.5Y 6/2), sedimentary structures; low-amplitude stylolites, 5% vugs to 15 mm in size are filled w/ f xyn pyrite xtal aggregates, composition; 3% c xyn spar fills subvertical fractures, 77% f-m xyn dolomite, 15% interxyn porosity, 5% vugs, misc; subvertical fractures, a 1 mm thick rim of rust-coloured weathered pyrite lines vugs. Rock Name: f-m xyn dolostone. Q10a Sample/Slab Description (of solitary coral), fresh surface colour; wk lt brownish olive (2.5Y 6/2), sedimentary structures; low-amplitude stylolites, one vug to 20 mm in size is lined w/ m to extremely c xyn spar, composition; 20% ossicles, one 5 mm-sized articulated ostracod, 5% spar between dolomite rhombs, 55% f-m xyn dolomite, 20% interxyn porosity. Rock Name: sl sparry/ossicle-rich f-m xyn dolostone. Q10b Sample/Slab/Thin Section Description (of pyritic zone), fresh surface colour; wk lt brownish olive (2.5Y 6/2), sedimentary structures; low-amplitude stylolites, 5% vugs to 20 mm in size, composition; 5% ossicles, 3% f-m xyn spar along stylolites and fractures, 5% pyrite xtals to 1.5 mm in size, 67% m xyn dolomite (75μm mode) w/ anhedral intergrown texture, larger dolomite rhombs have clear rims and cloudy cores and are com leached (some leaching as porous 'rims' inside xtal boundaries), 15% porosity between and in xtals. CL; dolomite luminesces a moderate orange and pyrite is non-luminescent. Rock Name: sl pyritic ossicle-bearing m xyn dolostone.
BASE OF UNIT 49.30 TOP OF UNIT 52.20 THICKNESS 2.90

UNIT Q11. Weathering Character prom. Colour WS-buff, FS-lt brownish grey. Basal Contact planar irregular, trans over 10 cm. Bedding Character hummocky (7 cm wavelength and 1.5 cm amplitude). Bed Parting Thickness min 2 cm, max 10 cm. Composition dolostone w/ 0.2 mm xtal size. Sedimentary Structures convex-up and hummocky structures, tr cross-stratification(?). Q11 Sample/Slab Description (taken 30 cm abu), fresh surface colour; wk xlt yellowish orange (2.5Y 8/2), sedimentary structures; wavy lam, hummocky (30 mm amplitude and 55 mm wavelength), composition; 3% f-m xyn spar between dolomite, 77% f-m xyn dolomite, 20% interxyn porosity. Rock Name: f-m xyn dolostone.
BASE OF UNIT 52.20 TOP OF UNIT 53.10 THICKNESS 0.90

UNIT Q12. Weathering Character prom. Colour WS & FS-as for Q11. Basal Contact abrupt, planar. Bedding Character planar. Composition mottled dolostone as for Q8 but sl calc.
BASE OF UNIT 53.10 TOP OF UNIT 54.40 THICKNESS 1.30

UNIT Q13. Weathering Character prom. Bed/Lam Thickness approx 1 cm. Composition dolostone as for Q9 w/ tr chert nodules 1.8 m abu, locally brecciated (a 50 cm-wide breccia

pipe in which the breccia extends to various levels to cross-cut the planar beds of unit Q14). Sedimentary Structures planar lam, sl wavy, 1.0 m abu becomes fissile, tr dk grey chert nodules 1.8 m abu. Convex-up structures (15 cm wavelength, 2 cm amplitude). The breccia pipe is bounded laterally by subvertical joints and above by unit Q14, 'clasts' are indistinct and have a 2 cm modal size.
BASE OF UNIT 54.40 TOP OF UNIT 57.00 THICKNESS 2.60

UNIT Q14. Weathering Character prom. Colour WS-buff. Basal Contact sl irregular and abrupt. Bedding Character sl mottled. Composition mainly c xyn dolostone w/ vugs elongate parallel to bedding, dolostone clast breccia occurs locally. Convex-up structures occur in calc dolostone 1.0 m abu. Some pyrolusite(?) staining. Oddly, the composition is ls above the breccia pipe of unit Q13. Sedimentary Structures convex-up structures 1.0 m abu, there is a 5 cm thick stylolitic zone at the base of the convex-up structures. Misc ls occurs above breccia pipes. Q14 Sample/Slab Description fresh surface colour; wk m brownish olive (2.5Y 5/2), sedimentary structures; low-amplitude stylolites, minor vugs to 5 mm in size, composition; 20% f-m xyn spar, 60% m xyn dolomite (125μm mode) w/ anhedral intergrown texture, 20% interxyn porosity. Rock Name: sparry m xyn dolostone. Sample Q14a taken for conodonts. Q14b Sample/Slab Description (fissile convex-up structures above the stylolitic ls zone), fresh surface colour; wk lt olive brown (10YR 6/2), sedimentary structures; low-amplitude stylolites, composition; 80% f-m xyn dolomite w/ intergrown anhedral xtal texture, 20% interxyn porosity. Rock Name: f-m xyn dolostone.
BASE OF UNIT 57.00 TOP OF UNIT 57.60 THICKNESS 0.60

UNIT Q15. Weathering Character prom. Colour WS-lt buff, FS-brownish buff. Basal Contact trans over 10 cm, sl wavy. Bedding Character indistinct but wavy at base, trans to planar upward. Bed Thickness min 3 cm, max 25 cm, mode 4 cm, very vaguely lam. Composition dolostone. Sedimentary Structures a few small vugs. Q15 Sample/Slab Description (taken 0.7 m abu), fresh surface colour; wk lt olive brown (10YR 6/2), sedimentary structures; low-amplitude stylolites, composition; 85% m xyn dolomite (75μm mode), 15% porosity. Rock Name: m xyn dolostone.
BASE OF UNIT 57.60 TOP OF UNIT 58.70 THICKNESS 1.10

UNIT Q16. Weathering Character prom. Colour WS-buff w/ white mottles, FS-m grey. Bedding Character mottled. Composition mottled dolostone as for Q8. Fossils stromatoporoids (sl calc) and a solitary coral.
BASE OF UNIT 58.70 TOP OF UNIT 59.20 THICKNESS 0.50

UNIT Q17. Weathering Character prom. Colour WS-buff, FS-lt brownish grey w/ dk grey blebs. Basal Contact trans, planar over 10 cm. Bedding Character poorly defined, almost massive. Bed Thickness min 1 cm, max 8 cm, mode 2-3 cm. Composition dolostone. Sedimentary Structures poorly defined wispy 'ghost' mottles. Q17 Sample/Slab Description (rep litho sample), fresh surface colour; wk lt brownish olive (2.5Y 6/2), sedimentary structures; very vague planar bedding, composition; 1% m xyn spar in patches to 5 mm in size, 5% f xyn pyrite accumulations to 1 mm in size, 79% f xyn dolomite (25μm mode), 15% interxyn porosity. Rock Name: sl pyritic/f xyn dolostone.
BASE OF UNIT 59.20 TOP OF UNIT 59.65 THICKNESS 0.45

UNIT Q18. Weathering Character semi-prom. Colour WS-buff, FS-lt brown. Basal Contact abrupt, planar irregular. Bedding Character indistinctly planar. Bed Parting Thickness min 2 cm, max 15 cm. Composition dolostone. Misc conchoidal fractures. Q18 Sample/Slab Description (taken 30 cm abu), fresh surface colour; wk lt brownish olive (2.5Y 6/2), sedimentary structures; planar wavy lam, composition; 85% f-m xyn dolomite (50μm mode), 15% interxyn porosity. Rock Name: f-m xyn dolostone.
BASE OF UNIT 59.65 TOP OF UNIT 60.50 THICKNESS 0.85

UNIT Q19. Weathering Character prom. Colour WS-buff, FS-lt brown. Basal Contact

irregular, trans over 15 cm. Bedding Character irregular. Composition dolostone (sl calc in locally brecciated areas) w/ an approx 1 cm modal clast size.
BASE OF UNIT 60.50 TOP OF UNIT 61.00 THICKNESS 0.50

UNIT Q20. Weathering Character semi-rec, partially covered and conchoidally fractured. Colour WS-vlt buff, FS-sl brownish grey. Basal Contact planar irregular, abrupt. Bedding Character planar, indistinct. Composition dolostone w/ occasional fluorite on bedding planes. Q20 Scree Sample Description (contains fluorite on bedding plane surfaces), fresh surface colour; vlt orangy yellow (2.5Y 7/3) w/ approx 3% purple f xyn fluorite as xtal aggregates and tr pyrite xtals to 1 mm in size.
BASE OF UNIT 61.00 TOP OF UNIT 64.70 THICKNESS 3.70

UNIT Q21. Weathering Character prom, well indurated. Colour WS and FS-buff. Basal Contact abrupt, convex-up structures (60 cm wavelength, 20 cm amplitude). Bedding Character mottled, irregular, locally brecciated near the base w/ irregularly-shaped convex-up structures (to 25 cm wide & 4 cm high) overlying the breccia. Bed Thickness min 4 cm, max 0.8 m, mode NA. Composition mottled dolostone, sl fossiliferous (at most 5% fossils) and locally sl calc, local minor breccia w/ 1 cm-sized clasts especially at the base, 5% vugs. Chert nodules at base, some pyrite staining, breccia in basal 40 cm. Sedimentary Structures mottles. Fossils 'ghosts' of favositid corals and stromatoporoids. Q21 Sample/Slab Description (taken of breccia), fresh surface colour; wk vlt orangy yellow (2.5Y 7/2), sedimentary structures; low-amplitude wavy stylolites, composition; 85% f xyn dolomite (30μm mode) w/ 15% interxyn porosity. Rock Name: f xyn dolostone.
BASE OF UNIT 64.70 TOP OF UNIT 65.50 THICKNESS 0.80

UNIT Q22. Weathering Character prom. Colour WS-buff, FS-lt brown. Basal Contact trans over 1 m, planar, sl irregular. Bedding Character indistinct, planar irregular w/ 'ghost' mottles. Bed Parting Thickness min 5 cm, max 50 cm, mode 20 cm. Composition mottled dolostone, 2% vugs, circular concretions approx 5 cm in size, very faint mottles on WS. From 5.5 to 6.5 m abu there is a partly covered breccia pipe (more than 3 m wide). Modal clast size is 1 cm. Stylolites occur in adjacent dolostone. 9.5 m abu there is a small plateau, the upper 2 m of which weathers platey. Recent(?) calcified dolomite occurs in the weathered upper part of the unit. Sedimentary Structures 5-10 cm-sized brown-rimmed concretions (altered mottles) have chalky white interiors. High-amplitude stylolites are com. Fossils one ossicle. Misc well indurated. Q22 Sample/Slab Description (taken 3.5 m abu, contains a concretion), fresh surface colour; wk vlt orangy yellow (2.5Y 7/2), sedimentary structures; wavy stylolites, minor vugs to 300μm in size, composition; 5% ossicles, 75% f-m xyn dolomite (75μm mode), 20% interxyn porosity. Rock Name: f-m xyn dolostone. Q22a Sample/Slab/Thin Section Description (rep litho sample taken), fresh surface colour; wk vlt orangy yellow (2.5Y 7/2), sedimentary structures; minor scouring, composition; 5% f xyn spar between dolomite rhombs, 75% f-m xyn dolomite (50μm-sized). The dolomite is extensively corroded with spar replacing xtal edges, 20% interxyn porosity. CL; a uniform dull orange-red luminescent dolomite, spar between dolomite is non-luminescent. Rock Name: sl sparry/f-m xyn dolostone (depositionally an interlam c dololutite-vf dolarenite).
BASE OF UNIT 65.50 TOP OF UNIT 75.00 THICKNESS 9.50

UNIT Q23. Weathering Character rec covered interval.
BASE OF UNIT 75.00 TOP OF UNIT 76.50 THICKNESS 1.50

UNIT Q24. Weathering Character prom. Description lam dolostone.
BASE OF UNIT 76.50 TOP OF UNIT 77.00 THICKNESS 0.50

UNIT Q25. Weathering Character prom. Colour WS-buff, FS-lt brown. Basal Contact abrupt, planar. Bedding Character indistinct, tr planar irregular, almost massive. Composition mottled dolostone, concretions w/ chalky white interiors. Sedimentary Structures circular white concretions (altered mottles).

BASE OF UNIT 77.00 TOP OF UNIT 77.50 THICKNESS 0.50

UNIT Q26. Weathering Character prom. Description lam dolostone.
BASE OF UNIT 77.50 TOP OF UNIT 77.90 THICKNESS 0.40

UNIT Q27. Weathering Character prom. Colour WS-buff, FS-lt brown. Basal Contact planar abrupt. Bedding Character indistinctly mottled. Composition dolostone.
BASE OF UNIT 77.90 TOP OF UNIT 79.20 THICKNESS 1.30

UNIT Q28. Weathering Character prom. Desc lam dolostone.
BASE OF UNIT 79.20 TOP OF UNIT 79.60 THICKNESS 0.40

UNIT Q29. Weathering Character prom. Description massive buff dolostone. Q29 Sample/Slab Description (rep litho sample taken 0.6 m abu), fresh surface colour; wk vlt orangy yellow (2.5Y 7/2), composition; f xyn dolomite (50μm mode), 15% interxyn porosity. Rock Name: f xyn dolostone.
BASE OF UNIT 79.60 TOP OF UNIT 80.20 THICKNESS 0.60

UNIT Q30. Weathering Character prom. Colour WS & FS-buff. Composition mottled dolostone as for Q22 w/ some deformation (dissolution) structures at the base, locally brecciated. Misc reached top approx 1.8 m abu, travelled 50 m north to next buttress-like outcrop where the unit is a small breccia pipe. This breccia pipe is overlain by massive dolostone containing faint convex-up structures (10 cm wide and 1 cm high). Clasts of dolomitic ls are of various sizes and have been deformed (clast mode is 2 cm and ranges to 15 cm).
BASE OF UNIT 80.20 TOP OF UNIT 82.60 THICKNESS 2.40

UNIT Q31. Weathering Character prom. Composition massive buff dolostone w/ discontinuous black lams. Sedimentary Structures lams form convex-up structures (wavelength 20 cm, amplitude 5 cm) at the base of the unit where it overlies the breccia pipes. Q31 Sample/Slab Description (rep litho sample taken 0.7 m abu), fresh surface colour; wk vlt orangy yellow (2.5Y 7/2), sedimentary structures; 'ghost' deformation structures, composition; 2% f xyn pyrite xtal accumulations, 78% f xyn dolomite (25μm mode), intergrown anhedral texture, 20% interxyn porosity. Rock Name: f xyn dolostone.
BASE OF UNIT 82.60 TOP OF UNIT 84.10 THICKNESS 1.50

UNIT Q32. Weathering Character prom. Composition mottled dolostone w/ breccia in basal 40 cm. Fossils chain and favositid corals.
BASE OF UNIT 84.10 TOP OF UNIT 85.00 THICKNESS 0.90

UNIT Q33. Weathering Character prom. Composition lam dolostone (the basal 40 cm is locally brecciated and the upper 30 cm is massive).
BASE OF UNIT 85.00 TOP OF UNIT 85.80 THICKNESS 0.80

UNIT Q34. Weathering Character prom. Composition mottled dolostone.
BASE OF UNIT 85.80 TOP OF UNIT 88.50 THICKNESS 2.70

UNIT Q35. Weathering Character rec covered interval.
BASE OF UNIT 88.50 TOP OF UNIT 98.50 THICKNESS 10.00

U. FIELD AND SAMPLE DESCRIPTIONS FOR SECTION R, MEASURED IN 1984.

Locality: Coastal cliffs 1.7 km SW of the stream that flows into Prince Regent Inlet at Peak Valley.

Latitude: 73°39'06"N.
Longitude: 87°58'W.

Section R was measured within the lower member of the Cape Crauford Formation.
The top of R21 is taken as the top of the lower member and correlates w/ the base of Q2. Sealevel is taken to coincide with the base of unit R1.

UNIT R1. Weathering Character rec, covered by ice and gravel near sealevel.
BASE OF UNIT 0.00 TOP OF UNIT 1.40 THICKNESS 1.40

UNIT R2. Weathering Character semi-rec. Colour WS and FS-interlam dk brown and vdk grey. Basal Contact covered. Bedding Character planar lam, locally contorted (irregular convex-up structures). Bed/Lam Thickness 5-10 mm thick dk grey and brown lams, upper 0.5 m is unlam, 20 cm bed parting thickness. Composition mottled dolostone w/ carb lams, xtal size 0.1 mm, locally brecciated (1 cm modal clast size). Sedimentary Structures contorted lam near top of unit, tr high-amplitude stylolites. R2 Sample/Slab Description (rep litho sample taken 1.2 m abu), fresh surface colour; interlam wk vlt orangy yellow (2.5Y 7/2) and wk dk brownish olive (2.5Y 4/2), sedimentary structures; low-amplitude and tr high-amplitude stylolites, planar to sl wavy lam w/ black (carb?) films, composition; 85% f xyn dolomite ($25 \mu m$ mode), 15% interxyn porosity. Rock Name: f xyn dolostone.
BASE OF UNIT 1.40 TOP OF UNIT 3.70 THICKNESS 2.30

UNIT R3. Weathering Character semi-rec. Colour WS-overall buff, FS-lt brown. Basal Contact abrupt, convex-up structures. Composition dolostone and ls rubble breccia, matrix is more calc than buff clasts, 60% 'clasts', 30% 'matrix' and 10% interxyn porosity. Clasts range from 1 mm to 30 cm in size, are ang to sbang, randomly oriented and are larger approx 1.2 m abu (inversely graded). Some of the larger clasts are deformed or faulted. Sedimentary Structures some clasts are planar lam and are derived from the overlying unit. R3 Sample/Slab/Thin Section Description (rep litho sample taken 20 cm abu), fresh surface colour; overall wk vlt orangy yellow (2.5Y 7/2), sedimentary structures; breccia w/ dk residue com at clast boundaries, low-amplitude stylolites, composition; breccia, clast size ranges from 2 to 23 mm (mode 8 mm), clasts are vf-f xyn dolostone w/ 5% chert clasts, 40% 'matrix' consists of 5% f xyn spar and 35% vf-f xyn dolomite, misc; subvertical fractures are com in some of the clasts. Most of the dolomite rhombs are lath-shaped. CL; dull orange-red luminescent dolomite, minor non-luminescent vug-filling spar. Rock Name: m calcirudite-sized breccia: vf-f xyn dolostone 'clast'-sparry f xyn dolomitic 'matrix' rubble breccia (in part crackle or stylo-breccia). Sample R3a taken for conodonts.
BASE OF UNIT 3.70 TOP OF UNIT 4.80 THICKNESS 1.10

UNIT R4. Weathering Character semi-rec. Colour WS-buff, FS-m brown. Basal Contact irregular, partly collapsed into the underlying unit R3. Bedding Character planar lams at base, massive in upper 0.8 m. Bed/Lam Thickness min 2 mm, max 1 cm, mode 5 mm in the basal 30 cm. Where deformation occurs bed thickness becomes parting thickness. Composition f xyn dolostone, in part calc, low porosity, locally brecciated at the base of the unit. Sedimentary Structures massive in upper 0.8 m. Misc conchoidally fractured into clasts approx 20 cm in size. R4 Sample/Slab Description (rep litho sample taken 30 cm abu), fresh surface colour; wk vlt orangy yellow (2.5Y 7/2), sedimentary structures; vague planar to sl irregular lam, composition; 80% f xyn dolomite ($30 \mu m$ mode), 20% interxyn porosity. Rock Name: f xyn dolostone.
BASE OF UNIT 4.80 TOP OF UNIT 5.90 THICKNESS 1.10

UNIT R5. Weathering Character semi-prom. Colour WS-m brown w/ buff mottles, FS-dk brown w/ buff mottles. There is a peculiar dk grey discordant zone to 10 cm thick immediately underlying the breccia. Basal Contact abrupt, irregular, breccia extends down to various levels in the underlying unit R4. Bedding Character massive, inversely-graded breccia (1 cm-sized clasts at the base grade to 10 cm-sized clasts 40 cm abu). Composition ls breccia.

Sedimentary Structures high-amplitude columnar stylolites. Misc thickness of unit is laterally variable. R5 Sample/Slab Description (contains stylolites 0.5 m abu), fresh surface colour; mottled wk m olive brown (10YR 4/2) and wk xlt yellowish orange (10YR 8/2), sedimentary structures; high-amplitude (to many cm) pervasive stylolites, locally crackle (stylo-) breccia, stylolites are accentuated by black residue 25 µm thick, f xyn spar which resembles flowstone and is 2 cm thick lines vugs, some stylolites cross-cut the 'flowstone', composition; 78% f xyn spar, 2% chert, 5% f xyn dolomite, 15% porosity along fractures/stylolites and between xtals, locally stylo-breccia 'clasts' are difficult to distinguish from 'matrix'. Rock Name: f xyn sparite 'clast and matrix' crackle (stylo-) breccia.
BASE OF UNIT 5.90 TOP OF UNIT 7.00 THICKNESS 1.10

UNIT R6. Weathering Character semi-prom, extremely fractured. Colour WS-lt buff, FS-lt brown. Basal Contact irregular and abrupt. Bedding Character breccia. Composition ls breccia w/ clasts from overlying unit in uppermost 0.4 m, clast size to 5 cm but w/ a 1-2 cm mode. Sedimentary Structures high-amplitude (to several cm) columnar stylolites. R6 Sample/Slab Description (taken 1.1 m abu), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; breccia, low-amplitude stylolites com form the contacts between clasts, there are also high-amplitude (to at least 8 mm) stylolites accentuated by black residue to 200µm thick, composition; 1% white chert (some alongside high-amplitude stylolites), 'matrix' is composed of microsparite/f xyn sparite, 5% interxyn porosity occurs along stylolites and between clasts and xtals, clast size min 2, max 30, mode 10 mm, 'clasts' are sbang-sbrd and are composed of microsparite/f xyn sparite. Rock Name: m calcirudite-sized breccia; microsparite/f xyn sparite 'clast and matrix' crackle (stylo-) breccia.
BASE OF UNIT 7.00 TOP OF UNIT 8.40 THICKNESS 1.40

UNIT R7. Weathering Character semi-prom. Colour WS-m brownish grey, FS-m brown. Basal Contact irregular, in places collapsed into R6. Bedding Character obscured by high-amplitude stylolites, locally crackle to mosaic breccia. Composition f xyn ls, local crackle to mosaic breccia approx 0.5 m thick. Sedimentary Structures high-amplitude stylolites are accentuated by black residue.
BASE OF UNIT 8.40 TOP OF UNIT 9.40 THICKNESS 1.00

UNIT R8. Weathering Character prom. Colour WS-lt buff, FS-lt brown. Basal Contact abrupt, hummocky (12 cm wide and 3 cm high). Bedding Character breccia. Composition clast-supported inversely-graded ls breccia, approx 80% clasts have a 3 cm mode, still breccia 13 m abu. Misc clast size varies both laterally and vertically, some 2 m square areas contain 2 cm-sized clasts whereas in adjacent areas clasts may range to 40 cm. R8 Sample/Slab/Thin Section Description (contains high-amplitude stylolites 8.8 m abu), fresh surface colour; wk lt olive brown (10YR 6/2), sedimentary structures; high-amplitude (to 8 mm) columnar stylolites are accentuated by black residue to 200µm thick, stylolitic residue forms boundaries between clasts, composition; 2% white chert occurs alongside stylolites, 'clasts' and 'matrix' are difficult to distinguish, 'clast' size min 2 mm, max 12 mm, mode 6 mm. Clasts are composed of microsparitic f-m xyn sparite (w/ a clotted texture), 25% porosity between clasts, along stylolites and between xtals. In addition, vugs to 0.5 mm in size are present within the clasts, misc; subvertical fractures terminate at stylolites. The stylolitic top and bottom boundaries of clasts have more residue than the clast sides. CL; entirely non-luminescent. Rock Name: m calcirudite-sized breccia; sparite 'clast and matrix' crackle (stylo-) breccia. Sample R8a taken for conodonts.
BASE OF UNIT 9.40 TOP OF UNIT 26.60 THICKNESS 18.20

UNIT R9. Weathering Character prom, fractured, blocky. Colour WS & FS m brownish grey. Basal Contact planar, abrupt. Bedding Character planar irregular. Bed Thickness min 2 cm, max 30 cm, mode 3-4 cm. Composition intraclastic ls, 60% intraclasts are larger than 1 mm, (mode 3 mm, max 2 cm), not size graded. R9 Sample/Slab Description (taken 3.2 m abu), fresh surface colour; wk dk olive-brown (10YR 4/2), sedimentary structures; low-amplitude stylolites, composition; 5% ostracods to 1 mm in size, 10% micrite, 45% microspar, 35% f xyn

dolomite, some lams more dolomitic than others, 5% porosity along stylolites and between xtals. Rock Name: micritic/dolomitic (f xyn) ostacod-bearing microsparite.
BASE OF UNIT 26.60 TOP OF UNIT 29.80 THICKNESS 3.20

UNIT R10. Weathering Character prom, rubbly. Colour WS-lt buff, FS-lt brown. Basal Contact planar abrupt, variable, deformed in places. Bedding Character breccia. Composition mainly of ls breccia, dolomitic, clast size uniform throughout unit, ungraded, min 1 mm, max 10 cm, mode 1 cm, low porosity, 80% clasts. Misc well indurated, tr ang dk brown chert clasts. R10 Sample/Slab/Thin Section Description (taken 1.0 m abu), fresh surface colour; wk vlt yellowish orange (10YR 7/2) 'clasts' in a wk lt olive brown (10YR 6/2) 'matrix', sedimentary structures; low-amplitude stylolites. The upper and lower boundaries of the breccia clasts are stylolitic and are accentuated by brown residue, stylolites are most com between microsparite/sparite 'matrix' and dolostone 'clasts', composition; breccia (65% clasts are larger than 2 mm), max size 20 mm, mode 10 mm, 60% of the clasts are composed of vf to f xyn dolostone w/ up to 15% porosity, 5% clasts are chert, 'matrix' consists of dolomitic (f xyn) microsparite/f xyn sparite (mode 20μm) w/ low porosity, misc; very extensive calcification of dolomite, dolostone clasts contain calcified dolomite (partly and completely leached), overall 10% porosity along stylolites and between xtals in the breccia clasts, porosity in dolostone clasts reaches 40% and may have formed upon dissolution of calcified dolomite. CL; entirely non-luminescent. Rock Name: m calcirudite-sized breccia; vf and f xyn dolostone and minor chert 'clast'-dolomitic (f xyn) microsparite/f xyn sparite 'matrix' crackle (stylo-) breccia (possibly a pseudobreccia).
BASE OF UNIT 29.80 TOP OF UNIT 31.00 THICKNESS 1.20

UNIT R11. Weathering Character a rec covered interval forms the top of weathered buttress-shaped outcrops.
BASE OF UNIT 31.00 TOP OF UNIT 33.80 THICKNESS 2.80

UNIT R12. Weathering Character semi-rec, partly covered. Colour WS & FS-m brownish grey. Basal Contact covered. Bedding Character planar. Bed Thickness approx 10 cm. Composition ls w/ tr wispy discontinuous carb lams. Fossils solitary coral, 1% brachs. R12 Sample/Slab Description fresh surface colour; wk m olive brown (10YR 5/2), sedimentary structures; low-amplitude stylolites, composition; 1% ossicles (some w/ 5-rayed star-shaped axial canals), 3% solitary corals (one is 18 mm long), 20% stromatoporoids (some bulbous to 16 mm in diameter, one tabular specimen is 100 mm wide), 15% undifferentiated shell frags. 33% peloids (composed of microspar) have a 200μm modal size and range from 50 to 300μm). 10% microspar and 10% spar occur between peloids, 3% vf xyn dolomite, 5% interxyn porosity. Rock Name: sparry biopelmicrosparite.
BASE OF UNIT 33.80 TOP OF UNIT 34.80 THICKNESS 1.00

UNIT R13. Weathering Character rec covered interval between shoreline bluffs and the main cliffs farther from the coast.
BASE OF UNIT 34.80 TOP OF UNIT 84.50 THICKNESS 49.70

UNIT R14. Weathering Character semi-prom. Colour WS & FS-m brownish grey. Basal Contact covered. Bedding Character planar indistinct. Bed Thickness mode 20 cm. Composition f xyn ls w/ tr carb films, small scale wavy lams (2 cm wavelength) w/ stylolites 20 cm abu. Sedimentary Structures high-amplitude stylolites. R14 Sample/Slab Description (rep litho sample taken 30 cm abu), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; low- and high-amplitude (to 2 mm) stylolites, there are also structures that resemble flowstone, composition; tr ostracods to 2.5 mm in size, tr plicated brach frags. 20% peloids and peloid aggregates are composed of microspar. 45% microspar between peloids, 20% f xyn spar, 5% f xyn dolomite (20μm mode), 10% porosity along stylolites and between xtals. Rock Name: sl dolomitic/sparry pelmicrosparite. Sample R14a taken for conodonts. R14b Sample/Slab Description (rep litho sample), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; low- and minor high-amplitude

stylolites, wavy lams. composition; 75% microspar, 10% spar along subvertical fractures, 10% evenly distributed f xyn dolomite, 5% porosity along stylolites and between xtals. Rock Name: dolomitic/sparry microsparite.
BASE OF UNIT 84.50 TOP OF UNIT 85.60 THICKNESS 1.10

UNIT R15. Weathering Character semi-prom, fractured. Colour WS & FS-m brownish grey, mottled. Basal Contact trans over 5 cm, planar, sl wavy. Bedding Character mottled, locally brecciated. Bed Parting Thickness mode 10 cm, variable. Composition ls w/ tr irregular black carb films. Sedimentary Structures high-amplitude stylolites and 1 to 2 cm-sized mottles. R15 Sample/Slab Description (rep litho sample taken 40 cm abu), fresh surface colour; wk lt olive brown (10YR 6/2), sedimentary structures; high-amplitude (to 2.5 mm) stylolites, in part crackle (stylo-) breccia, spar has dissolved adjacent to stylolites to form irregularly-shaped vugs to 10 mm in size, composition; tr articulated brachs to 7.5 mm long, 1% articulated ostracods to 4 mm in size. 51% peloid aggregates to 400μm in size are composed of microspar, 15% clear spar between peloid aggregates, 3% f xyn dolomite, 30% porosity along stylolites, between clasts and between xtals/gns. Rock Name: pelsparite, locally crackle (stylo-) breccia.
BASE OF UNIT 85.60 TOP OF UNIT 87.70 THICKNESS 2.10

UNIT R16. Weathering Character rec covered interval.
BASE OF UNIT 87.70 TOP OF UNIT 89.70 THICKNESS 2.00

UNIT R17. Weathering Character semi-prom. Colour WS-lt brownish grey, FS-lt buff. Basal Contact covered. Bedding Character basal 0.5 m is planar, upper part is wavy, lam, locally brecciated. Bed Parting Thickness 8 cm. Composition ls, locally dolomitic w/ 2-5% dk grey/black chert nodules, locally brecciated, nodules are sometimes elongate subparallel to bedding and in some cases brecciated (dk grey to black ang chert clasts) as are lams. Sedimentary Structures contorted lam and high-amplitude stylolites. R17 Sample/Slab Description (rep litho sample taken 2.0 m abu), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; high-amplitude stylolites form clast boundaries, composition; breccia, 60% of the clasts are larger than 2 mm (max size 25 mm, mode 10 mm), 'clasts' are composed of dolomitic microsparite/f xyn sparite, 'matrix' is f-c xyn sparite, 25% porosity along 'clast' boundaries, stylolites, between xtals and in partially dissolved clasts (vugs), overall 10% f xyn dolomite. Rock Name: m calcirudite-sized breccia; microsparite-f xyn sparite 'clast' f-c xyn sparite 'matrix' crackle to mosaic breccia. R17a Sample/Slab/Thin Section Description (taken 1.5 m abu), fresh surface colour; wk vlt yellowish orange (10YR 7/2) w/ wk vdk olive brown (10YR 3/1) chert clasts, composition; breccia w/ 70% 'clasts' (larger than 2 mm) in size, max size 20 mm, mode 6 mm, 'clasts' are composed of vf-f (25μm mode) xyn dolostone (60%) and dk grey chert (10%), 'clasts' occur in a f xyn sparite 'matrix'. Sparite of 'matrix' com replaces dolomite rhomb xtal edges, 10% microspar/f xyn spar between dolomite, chert clasts are composed of aphano/vf xyn quartz, 25% overall interxyn porosity. CL; non-luminescent chert, spar luminesces a dull orange and dolomite is non-luminescent. Rock Name: m calcirudite-sized breccia; vf-f xyn dolostone and dk grey chert 'clasts' in sparry f xyn dolostone 'matrix'. R17b Sample/Slab Description (taken 4.0 m abu), fresh surface colour; wk vlt orangy yellow (2.5Y 7/2), sedimentary structures; low-angle planar cross-stratification (35 mm thick cosets), gns within cosets are normally graded. composition; 15% of gns are composed of f xyn spar, tr pyrite, m dololutite-c dolarenite gns are now overgrown/recrystallized and are composed of vf-f xyn dolomite, 25% interxyn porosity. Rock Name: cross-stratified m sparry dololutite-c dolarenite.
BASE OF UNIT 89.70 TOP OF UNIT 93.90 THICKNESS 4.20

UNIT R18. Weathering Character prom, ang blocky weathering. Colour WS & FS-m brown. Basal Contact planar abrupt, small scale irregular, R18 is collapsed into R17. Bedding Character generally massive w/ faint planar beds. Composition fossiliferous ls w/ tr chert nodules to 10 by 4 cm (elongate parallel to bedding). Fossils 25%, in basal 1 m only, brachs (approx 1 cm-sized, articulated, thin-shelled, biconvex, plicated rhynchonellid-type), favositid

coral (approx 2 by 4 cm) 1 m abu, one approx 2 cm-sized overturned solitary coral. R18 Sample/Slab Description (rep litho sample taken 0.9 m abu), fresh surface colour; wk m olive brown (10YR 5/2), sedimentary structures; low-amplitude stylolites, composition; 5% plicated articulated brachs to 6 mm in size are filled w/ pelspar (one contains pelmicrospar), in part silicified valves, 10% brach frags, 5% articulated and disarticulated ostracods, one tabular stromatoporoid (2%) is 3 mm thick and 20 mm wide. 33% 150-200μm-sized peloids, 15% microspar and 10% f xyn spar between peloids, 10% vf-f xyn dolomite, 10% porosity along stylolites and between xtals. Rock Name: sparry/dolomitic brachiopodal biopelmicrosparite. R18a Sample Description (taken of solitary coral 1.0 m abu), fresh surface colour; wk m olive brown (10YR 5/2), composition; a solitary coral frag 2 cm long w/ a 1 cm diameter calyx and many septa. Sample R18b taken for conodonts.
BASE OF UNIT 93.90 TOP OF UNIT 107.70 THICKNESS 16.60

UNIT R19. Desc ls as for R18 but weathers buff and bedding (mode 7 cm thick) is better defined.
BASE OF UNIT 107.70 TOP OF UNIT 108.70 THICKNESS 1.00

UNIT R20. Weathering Character rec covered interval.
BASE OF UNIT 108.70 TOP OF UNIT 110.00 THICKNESS 1.30

UNIT R21. Weathering Character prom. Colour WS-buff & m brown, FS-lt to m brown. Basal Contact covered. Bedding Character inversely-graded rubble breccia. Composition ls breccia w/ dk grey brecciated chert nodules, clasts in the basal 30 cm are 1-2 cm in size and grade rapidly up to 10 or more cm about 0.5 m abu. Misc clasts are deformed in wavy beds.
BASE OF UNIT 110.00 TOP OF UNIT 111.50 THICKNESS 1.50

V. FIELD AND SAMPLE DESCRIPTIONS FOR SECTION S, DESCRIBED IN 1984.

Locality: North side of stream 4.3 km NE of Peak Valley base camp, 0.8 km from coast.
Latitude: 73°42'N.
Longitude: 87°50'W.

Note: A section was not measured here but lateral changes in the cliff were described. This section is probably stratigraphically equivalent with unit R2.
S1 Sample/Slab Description (rep litho sample from buff breccia), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; breccia, low-amplitude stylolites form the boundaries between clasts, composition; breccia, 70% clasts (min 2 mm, max 50 mm, mode 10 mm) are composed of f xyn dolostone and sparry f xyn dolostone w/ minor dolomitic f xyn sparite, 30% 'matrix' consists of sparry f xyn dolostone. Porosity between clasts and xtals is 25%. Rock Name: m calcirudite-sized breccia: f xyn dolostone and sparry f xyn dolostone 'clast'-dolomitic f xyn sparite 'matrix' breccia. S2 Sample/Slab Description (taken from base of buff breccia), fresh surface colour; wk vlt yellowish orange (10YR 7/2), sedimentary structures; low- and minor high-amplitude stylolites, composition; 5% microspar, 15% spar, 60% f xyn dolomite (50μm xtal size mode), spar concentration is highly variable across stylolites, 20% interxyn porosity, misc; minor subvertical fractures. Rock Name: sl microsparitic/sparry f xyn dolostone.

XV. APPENDIX 3, DESCRIPTION OF DRILL CUTTINGS FOR THE PANARCTIC DEMINEX O-21 BOREHOLE, SOMERSET ISLAND

LOCALITY: Northeastern Somerset Island.
LATITUDE: 73°40'52.194"N.
LONGITUDE: 90°36'45.168"W.
GROUND ELEVATION: 368.5 m (1209').
K.B. ELEVATION: 371.3 m (1218').
SPUDDED: April 23, 1971.
RIG RELEASE: July 9, 1971.
TOTAL DEPTH (DRILLER): 1986 m (6514').
CORED INTERVALS: 1396.6-1404.8 m (4582-4609'), recovered 8.2 m (27'), 1966.0-1975.0 m (6450-6479.5'), recovered 8.7 m (28.5').
MUD REPORT:
0-152 m: air drilled.
152-578 m: reamed w/ fresh water gel system, air drilled.
578-632 m: fresh water gel system.
632-1986 m: fresh water gel, XC polymer system.

NOTE: Well depths are in metres and feet and percentages refer to the estimated proportions of drill cuttings of a given litho.

LEOPOLD FORMATION (0-234 m, 0-768')

3.0 m (10')-100% lt grey argil/silty microsparite.
6.1 m (20')-100% lt grey anhydritic sparry very f-f xyn dolostone, silty (quartzose)/gypsiferous/argil very f to f xyn dolostone.
9.1 m (30')-10% lt brown sl silty/gypsiferous/ dolomitic (f xyn) ostracodal biomicrosparite, 90% sparry f gn quartzose siltstone and very f gn quartzose sandstone.
12.2 m (40')-5% of chips contain ostracods to 5 mm in size, 95% silty/gypsiferous/sparry f xyn dolostone.
15.2 m (50')-sl brownish grey f xyn sparite.
18.3 m (60')-70% lt grey argil/microsparitic f xyn c silty to very f sandy (quartz) dolostone, 30% lt grey argil/c silty/very f sandy (quartzose) dolostone, tr ostracods to 0.5 mm in size.
21.3 m (70')-sl brownish lt grey argil/microsparitic/ c quartzose siltstone.
24.4 m (80')-80% silty/very f sandy (quartzose) sparry f xyn dolostone, 1% microsparite, 19% f xyn dolostone.
27.4 m (90')-98% lt brownish sparry f xyn siltstone, 2% spar.
30.5 m (100')-20% buff silty (quartzitic)/sparry f xyn dolostone, 79% buff silty f xyn dolostone, 1% c xyn spar.
33.5 m (110')-30% white siltstone, 55% lt brownish grey sparry siltstone/very f gn quartzose sandstone, 15% lt brown ostracodal coated gn biomicrosparite.
36.6 m (120')-20% grey silty/sparry dolostone, 80% buff argil/aphanoxyn/very f xyn dolostone.
39.6 m (130')-95% buff variously dolomitic microsparite, 5% brown gypsiferous/sparry very f xyn dolostone.
42.7 m (140')-100% lt grey argil/silty/gypsiferous/ sparry very f to f xyn dolostone.
45.7 m (150')-100% soft grey argil microsparite.
48.8 m (160')-70% buff argil micrite/microsparite, 30% grey argil micrite/microsparite.
51.8 m (170')-100% grey argil/silty (quartzose)/sparry dolostone aa w/ tr anhydrite, tr spar.
54.9 m (180')-90% buff silty/argil/sparry f xyn dolostone, 10% buff silty/argil/ gypsiferous f xyn dolostone, tr sparite.
57.9 m (190')-95% buff silty/sparry f xyn dolostone, 5% anhydritic/sparry f xyn dolostone.
61.0 m (200')-100% grey argil/silty (quartzose) microsparite w/ minor shale partings.

64.0 m (210')-20% grey argil/microsparitic quartzose siltstone/very f gn quartzose sandstone, 80% dolomitic quartz-rich siltstone/very f gn sandstone.
67.1 m (220')-15% lt brown microsparite, 85% grey argil microsparite.
70.1 m (230')-10% vlt grey argil microsparite, 90% buff silty/argil microparite, tr dk grey argil/silty microsparite.
73.2 m (240')-aa.
76.2 m (250')-100% buff silty (quartzose) microsparite.
79.2 m (260')-100% lt brown argil microsparite.
82.3 m (270')-100% grey argil/silty (quartzose) microsparite, tr pyrite.
85.3 m (280')-100% grey argil microsparite.
88.4 m (290')-100% grey argil/silty (quartzose)/ microsparitic very f xyn dolostone w/ minor dk grey shale partings.
91.4 m (300')-aa.
94.5 m (310')-90% grey argil/silty (quartzose)/ microsparitic very f xyn dolostone, 10% vlt grey argil microsparite.
97.5 m (320')-40% vlt grey argil f xyn dolosparitic quartzose siltstone, 10% argil microsparite, 50% argil/silty (quartzose)/sparry f xyn dolostone.
100.6 m (330')-10% lt grey argil/silty (quartzose)/ dolomitic f xyn sparite, 90% sparry f to m xyn dolostone.
103.6 m (340')-30% grey argil microsparite, 70% lt grey argil/silty/microsparitic very f xyn dolostone.
106.7 m (350')-aa.
109.7 m (360')-85% lt grey argil/microsparitic f xyn dolostone, 15% dk grey argil siltstone.
112.8 m (370')-95% dolostone aa, 5% siltstone aa.
115.8 m (380')-100% lt grey argil/silty/microsparitic f xyn dolostone.
118.9 m (390') & 121.9 m (400')-aa.
125.0 m (410')-100% lt grey argil/silty/sl microsparitic f xyn dolostone aa.
128.0 m (420')-5% lt grey argil/dolomitic sparite, 95% lt grey microsparitic/silty/argil very f gn quartz arenite, tr dk grey shale.
131.1 m (430')-10% lt grey silty/argil/microsparitic f xyn dolostone, 90% lt grey dolomitic (very f xyn) microsparite.
134.1 m (440')-5% lt grey microsparite, 90% lt grey silty/very f gn sandy/microsparitic f xyn dolostone, 5% dk grey shale.
137.2 m (450')-5% lt grey microsparite, 95% lt grey silty/very f gn sandy/sl sparry very f to f xyn dolostone.
140.2 m (460')-100% lt grey argil/silty (quartzose) microsparitic very f xyn dolostone.
143.3 m (470')-5% dk grey shale, 30% dolomitic (f xyn) microsparite, 65% lt grey silty/argil/sparry very f gn quartz arenite.
146.3 m (480')-30% lt grey argil/silty/microsparitic very f gn quartz arenite, 70% vlt grey silty microsparite.
149.4 m (490')-100% lt grey silty/argil/variously sparry very f xyn dolostone.
152.4 m (500')-100% lt grey argil/sl micaceous/silty/very f gn sandy (quartzose)/microsparitic very f xyn dolostone.
155.4 m (510')-no recovery.
158.5 m (520')-100% lt grey argil/very f gn sandy (quartzose) microsparitic quartz siltstone, tr dk grey siltstone.
161.5 m (530')-95% lt grey microsparitic/silty (quartzose) claystone, 5% dk grey shale, tr favositid corals (walls are very f xyn dolomite, corallites are filled w/ very f xyn spar).
164.6 m (540')-100% lt grey & lt buff silty/argil/ microsparitic very f xyn dolostone.
167.6 m (550')-100% lt grey to lt buff argil/sl silty/ microsparitic very f to f xyn dolostone.
170.7 m (560')-99% lt grey argil/silty/ microsparitic very f xyn dolostone, 1% dk grey shale, minor shale partings.
173.7 m (570')-100% lt grey argil/silty (quartzose)/ microsparitic very f xyn dolostone.
176.8 m (580')-98% lt grey to buff silty (quartzose)/argil microsparitic very f xyn dolostone, tr mica, tr dk grey shale, 2% grey to buff argil/silty/ microsparitic very f to f gn quartz arenite w/ tr mica.

179.8 m (590')-100% lt buff silty (quartzose) f xyn dolostone, tr very f gn quartzose sand gns and tr microcline, minor dk grey shale partings.
182.9 m (600')-100% buff silty/argil/f xyn dolostone, tr gypsum.
185.9 m (610')-99% buff silty (quartzose) argil microsparite, tr ostracods, 1% dk grey siltstone.
189.0 m (620')-60% microsparitic f xyn dolostone, 40% buff microsparitic/silty/dolomitic (very f xyn) claystone, tr dk grey shale, tr ostracods, tr pyrite.
192.0 m (630')-99% lt buff microsparitic claystone w/ shale partings, 1% dk grey shale.
195.1 m (640')-100% buff silty/argil/microsparitic very f to f xyn dolostone, tr shale partings.
198.1 m (650')-100% buff microsparitic very f gn quartz arenite, tr feldspar, tr shale partings.
201.2 m (660')-42% lt grey argil very f xyn dolostone w/ shale partings, 2% dk grey shale, 2% lt buff very f gn quartzose sandstone aa, 54% lt grey microsparitic dolostone.
204.2 m (670')-10% lt buff argil microsparite, 40% lt grey dolomitic (very f xyn)/argil microsparite, 50% lt grey argil very f xyn dolostone.
207.2 m (680')-90% silty (quartzose) argil microsparite, 10% dk grey silty (quartz-rich) shale and argil quartzose siltstone.
210.3 m (690')-10% lt brown microsparite, 79% buff microsparitic/argil quartzose siltstone, 10% white very f gn quartzose sandstone aa, 1% dk grey shale.
213.4 m (700')-98% vlt buff argil/microsparitic quartzose siltstone/very f gn quartz arenite, 2% dk grey shale.
216.4 m (710')-100% vlt buff microsparitic/argil quartzose siltstone-very f gn quartz arenite w/ up to 20% porosity.
219.5 m (720')-25% argil/dolomitic (very f to f xyn) microsparite, 5% dk grey shale, 70% lt grey to lt buff argil/silty (quartzose) microsparitic f xyn dolostone w/ shale partings.
222.5 m (730')-aa.
225.6 m (740')-100% vlt buff argil microsparite.
228.6 m (750')-100% lt grey to vlt buff argil microsparitic quartzose siltstone.
231.6 m (760')-97% vlt buff argil/microsparitic very f to f xyn dolostone w/ minor dk grey shale partings, 3% dk grey shale.
234.7 m (770')-98% vlt brown argil/microsparitic very f gn quartz arenite w/ a minor proportion of dk grey shale partings. 2% dk grey shale.

CARBONATE-EVAPORITE SEQUENCE (234-1265 m, 768-4150')

UNIT H (234-327 m, 768-1073')

237.7 m (780')-10% white xyn gypsum, 20% c xyn selenite, 25% dk grey silty shale, 5% lt brown microsparite, 40% lt buff microsparitic very f xyn dolostone.
240.8 m (790')-aa.
243.8 m (800')-20% sl anhydritic/microsparitic very f xyn dolostone, 15% white xyn gypsum, 25% clear selenite, 40% lt brown very f xyn anhydrite.
246.9 m (810')-60% lt brown very f xyn anhydrite, 25% c xyn selenite, 10% opaque white gypsum xtal frags, 5% microsparite.
249.9 m (820')-10% buff sl silty (quartzose)/argil microsparite, 84% buff sl silty (quartzose)/ argil very f xyn dolostone, 5% clear to brown selenite to 1 mm in size, 1% shale.
253.0 m (830')-10% silty (quartzose) argil microsparite, 86% buff very f to f xyn dolostone, 2% clear selenite, 2% dk grey shale.
256.0 m (840')-50% lt brown micrite/microsparite, 24% lt brown argil/dolomitic (f xyn) microsparite, 25% clear to lt brown selenite, 1% dk grey shale.
259.1 m (850')-95% lt brown translucent anhydrite w/ minor microsparite, 5% clear selenite.
262.1 m (860')-65% lt brown dolomitic (f xyn) microsparite, 25% white dolomitic f xyn anhydrite, 10% clear selenite.
265.2 m (870')-15% lt buff microsparitic/argil f xyn dolostone, 77% vlt grey to lt brown f xyn dolostone, 2% white opaque gypsum, 2% clear selenite, 3% lt brown anhydrite, 1% lt grey

microsparitic claystone.

268.2 m (880')-70% lt brown microsparite, 10% lt brown dolomitic (f xyn) microsparite, 10% white f xyn anhydrite, 10% clear selenite.

271.3 m (890')-50% lt brown microsparite, 30% lt brown dolomitic (f xyn) microsparite, 10% clear selenite, 10% white microsparitic f(?) xyn gypsum.

274.3 m (900')-95% buff to brown sl silty (quartzose) f xyn dolostone, 5% clear selenite.

277.4 m (910')-20% buff to brown dolomitic (f xyn) microsparite, 65% vlt buff microsparitic/argil f xyn dolostone, 10% clear selenite, 5% white translucent f(?) xyn gypsum.

280.4 m (920')-25% buff to lt brown dolomitic (f xyn) microsparite, 60% vlt buff microsparitic/argil f xyn dolostone, 10% clear selenite, 5% white translucent gypsum.

283.5 m (930')-5% vlt buff microsparitic f xyn dolostone, 87% vlt buff sl silty (quartzose) f xyn dolostone, 5% clear selenite, 3% white translucent gypsum.

286.5 m (940')-10% lt buff microsparitic f xyn dolostone, 15% clear selenite, 5% white translucent gypsum, 70% vlt buff f xyn dolostone.

289.6 m (950')-15% dolomitic (f xyn) microsparite, 10% clear selenite, 73% vlt buff f xyn dolostone, 2% white translucent f(?) xyn gypsum.

292.6 m (960')-60% lt brown gypsiferous microsparite, 25% clear selenite, 10% white translucent gypsum, 5% lt brown translucent/microsparitic gypsum.

295.7 m (970')-30% microsparite, 60% vlt buff sl silty/ argil microsparite, 5% clear selenite, 3% white translucent gypsum, 2% shale.

298.7 m (980')-24% lt buff microsparite, 72% lt buff argil/silty (quartzose) microsparitic f xyn dolostone, 1% shale, 3% clear selenite.

301.8 m (990')-10% lt brown microsparitic gypsum, 80% vlt buff argil/microsparitic f xyn dolostone, 5% clear to lt brown selenite, 5% white gypsum xtal frags, tr dk grey shale.

304.8 m (1000')-84% lt brown sl microsparitic/argil very f xyn dolostone, 5% clear selenite, 5% clear to lt brown f xyn gypsum, 5% white f xyn gypsum, 1% dk grey shale.

307.8 m (1010')-30% lt brown microsparite, 39% clear selenite, 30% white f xyn gypsum, tr dk grey shale.

310.9 m (1020')-5% clear selenite, 50% lt buff microsparite, 5% white f xyn gypsum, 2% dk grey shale, 38% very f xyn gypsum.

313.9 m (1030')-5% buff microsparite, 40% buff microsparitic f xyn dolostone, 47% buff f xyn dolostone, 5% clear selenite, 3% white gypsum xtals, tr dk grey shale.

317.0 m (1040')-5% buff microsparite, 94% lt buff microsparitic f to m xyn dolostone, 1% clear selenite.

320.0 m (1050')-aa w/ tr shale partings.

323.1 m (1060')-79% lt buff sparry f xyn dolostone, 5% buff microsparite, 15% buff to clear gypsum, 1% dk grey shale.

326.1 m (1070')-5% buff microsparite, 30% microsparitic f xyn dolostone, 20% clear selenite, 45% buff f xyn dolostone.

UNIT G (327-507 m, 1073-1663')

329.2 m (1080')-99% buff to lt brown f xyn dolostone, 1% dk grey shale.

332.2 m (1090')-40% white f xyn dolostone, 35% clear selenite, 25% white gypsum xtals, tr microsparite, tr shale.

335.3 m (1100')-45% m xyn dolostone, tr sparite, 40% f xyn dolostone, 10% clear selenite, 5% white gypsum xtals.

338.3 m (1110')-76% buff f to m xyn dolostone, 20% clear selenite, 3% white gypsum xtals, 1% dk grey shale.

341.4 m (1120')-1% buff microsparite, 10% white gypsum xtals, 25% clear selenite, 64% lt brown f to m xyn dolostone.

344.4 m (1130')-10% clear selenite, 3% white f xyn gypsum, 1% dk grey shale, 86% lt brown f xyn dolostone.

347.5 m (1140')-30% clear selenite, 70% lt brown f xyn dolostone, tr dk grey shale.

350.5 m (1150')-aa.

353.6 m (1160')-1% lt buff microsparite, 10% clear selenite, 5% white f(?) xyn gypsum, 2% lt grey chert, 82% lt brown f xyn dolostone.
356.6 m (1170')-2% lt brown microsparite, 10% clear selenite, 88% lt brown f to m xyn dolostone.
359.7 m (1180')-5% microsparitic f xyn dolostone, 15% clear selenite, 2% white f(?) xyn gypsum, 78% lt brown f xyn dolostone (in part anhydritic), tr pyrite, tr lt grey chert.
362.7 m (1190')-3% lt brown microsparite, 5% clear selenite, 89% lt brown f xyn dolostone, 3% white f xyn gypsum.
365.8 m (1200')-15% clear selenite, 5% white f(?) xyn gypsum, 1% dk grey shale, 79% lt brown f xyn dolostone.
368.8 m (1210')-5% selenite, 95% lt brown f xyn dolostone.
371.9 m (1220')-10% clear selenite, 2% white f xyn gypsum, 1% dk grey shale, 87% lt brown very f to f xyn dolostone.
374.9 m (1230')-15% clear selenite, 2% dk grey shale, 5% white f xyn gypsum, 5% lt brown f xyn anhydrite, 73% lt brown f xyn dolostone, in part sl anhydritic.
378.0 m (1240')-5% lt buff microsparite, 30% clear selenite, 3% dk grey shale, 62% lt brown f xyn dolostone.
381.0 m (1250')-1% lt buff microsparite, 20% clear selenite, 5% white f(?) xyn gypsum, 74% lt brown f xyn dolostone.
384.0 m (1260')-1% buff microsparite, 10% selenite, 86% lt brown f xyn anhydritic dolostone, 3% white f(?) xyn gypsum.
387.1 m (1270')-1% buff microsparite, 60% white f xyn anhydrite, 39% lt brown f xyn anhydritic dolostone.
390.1 m (1280')-20% selenite, 5% white f(?) xyn gypsum, 3% dk grey siltstone, 20% white f xyn anhydrite, 52% lt brown anhydritic f xyn dolostone.
393.2 m (1290')-25% clear selenite, 74% lt brown f xyn dolostone, 1% dk grey shale.
396.2 m (1300')-25% clear selenite, 10% white gypsum xtal frags, 3% dk grey shale, 62% lt brown f xyn dolostone.
399.3 m (1310')-tr microsparite, 5% clear selenite, 5% white f(?) xyn gypsum, 90% buff to lt brown f xyn dolostone (in part gypsiferous).
402.3 m (1320')-25% clear selenite, 10% white f xyn gypsum, 2% buff microsparite, 2% grey shale, 61% f xyn dolomitic gypsum.
405.4 m (1330')-tr lt grey chert, 15% clear selenite, 3% white gypsum xtal frags, 82% lt brown very f-f xyn dolostone.
408.4 m (1340')-15% clear selenite, 5% white f xyn gypsum, 1% dk grey shale, 79% buff to lt brown f xyn dolostone.
411.5 m (1350')-10% clear selenite, 5% white f(?) xyn gypsum, 3% lt brown anhydrite, 82% lt brown f xyn dolostone, tr pyrite, tr shale.
414.5 m (1360')-15% clear selenite, 1% microsparite, 10% lt brown dolomitic (f xyn) gypsum, 5% white c xyn gypsum xtal frags, 69% lt brown f xyn gypsum.
417.6 m (1370')-15% clear selenite, 2% dk grey shale, 83% lt brown f xyn dolostone.
420.6 m (1380')-10% clear selenite, 5% dk grey shale, 3% white f xyn gypsum, 82% lt brown f xyn dolostone.
423.7 m (1390')-2% dk grey shale, 5% clear selenite, 10% white f xyn gypsum, 82% lt brown f xyn dolostone.
426.7 m (1400')-15% clear selenite, 2% dk grey shale, 10% white f xyn gypsum, 73% lt brown f xyn dolostone, tr pyrite.
429.8 m (1410')-10% clear selenite, 1% dk grey shale, 2% white f xyn gypsum, 87% lt brown f to m xyn dolostone.
432.8 m (1420')-10% white f xyn gypsum, 5% lt buff microsparite, 10% clear selenite, 3% dk grey shale, 72% lt brown f to m xyn dolostone.
435.9 m (1430')-3% vlt buff microsparite, 15% clear selenite, 5% white gypsum xtal frags, 77% lt brown f xyn dolostone, 1% dk grey shale.
438.9 m (1440')-10% clear to lt brown selenite, 5% white f(?) xyn gypsum, 85% lt brown f to m xyn dolostone.
443.0 m (1450')-5% clear selenite, 5% white gypsum xtal frags, 90% lt brown f xyn dolostone,

tr pyrite, tr microsparitic f xyn dolostone.

445.0 m (1460')-1% lt brown chert, 10% clear selenite, 2% dk grey shale, 5% white f xyn gypsum, 82% lt brown f xyn dolostone.

448.1 m (1470')-2% lt buff microsparite, 10% clear selenite, 5% white f(?) xyn gypsum, 83% lt brown f to m xyn dolostone, tr pyrite.

451.1 m (1480')-5% clear selenite, 1% microsparite, 5% white f xyn gypsum, 89% lt brown f to m xyn dolostone.

454.2 m (1490')-tr pyrite, 5% clear selenite, 1% white f xyn gypsum, 94% lt brown f to m xyn dolostone.

457.2 m (1500')-15% clear selenite, tr pyrite, 5% white f(?) xyn gypsum, 1% dk grey shale, 79% lt brown to brown f to m xyn dolostone.

460.2 m (1510')-7% lt buff microsparite, 10% clear selenite, tr shale, 5% white c xyn gypsum xtal frags, 78% lt brown to brown f xyn dolostone.

463.3 m (1520')-tr grey shale, 1% clear selenite, 2% white f xyn gypsum, 97% lt to m brown f to m xyn dolostone.

466.3 m (1530')-5% clear selenite, 2% white c xyn gypsum, 2% dk grey shale, 91% lt brown f to m xyn dolostone.

469.4 m (1540')-5% clear selenite, 5% white f xyn gypsum, 2% dk grey shale, 88% lt to m brown f xyn dolostone.

472.4 m (1550')-15% clear selenite, 5% white f xyn gypsum, 80% lt brown f to m xyn dolostone.

475.5 m (1560')-1% lt buff microsparite, 5% clear selenite, tr pyrite, 2% white c xyn gypsum xtal frags, 1% dk grey shale, 91% buff f xyn dolostone.

478.5 m (1570')-2% lt buff microsparite, tr pyrite, 2% dk grey shale, 10% clear selenite, 5% white f(?) xyn gypsum, 81% lt brown f xyn dolostone.

481.6 m (1580')-10% clear selenite, 5% white f xyn gypsum, 2% dk grey shale, 83% lt brown f xyn dolostone w/ minor shale partings.

484.6 m (1590')-2% lt buff microsparite, 20% clear to lt buff selenite, 15% white c xyn gypsum xtal frags, tr pyrite, 2% dk grey shale, 61% lt brown f xyn dolostone.

487.7 m (1600')-15% clear selenite, 3% white c xyn gypsum xtal frags, 2% dk grey shale, 80% lt to m brown f to m xyn dolostone.

490.7 m (1610')-5% clear selenite, 3% white c xyn gypsum, tr pyrite, 2% dk grey shale, 90% lt brown f xyn dolostone.

493.8 m (1620')-10% clear selenite, 10% white c xyn gypsum xtal frags, 79% lt brown f to m xyn dolostone, 1% dk grey shale.

496.8 m (1630')-5% lt brown microsparitic f xyn dolostone, 15% clear selenite, 3% white c xyn gypsum xtal frags, 2% dk grey shale, 75% lt to m brownish f to m xyn dolostone w/ minor shale partings.

499.9 m (1640')-2% lt buff microsparite, 15% clear selenite, 10% white c xyn gypsum xtal frags, tr dk grey shale, 73% lt to m brown f xyn dolostone.

502.9 m (1650')-1% lt buff dolomitic (f xyn) microsparite, 15% clear selenite, 84% white to lt brown f xyn anhydrite.

506.0 m (1660')-15% lt brown very f to f xyn anhydrite, 30% clear anhydrite, 5% white c xyn gypsum xtal frags, tr dk grey shale, 50% lt brown very f to f xyn dolostone.

UNIT F (507-677 m, 1663-2221')

509.0 m (1670')-3% lt buff microsparite, tr lt grey chert, 5% white c xyn gypsum xtal frags, 2% dk grey shale, 90% lt buff to lt brown dolomitic f xyn anhydrite.

512.1 m (1680')-20% buff to lt brown dolomitic f xyn sparite, tr lt grey chert, 20% white f xyn anhydritic gypsum, 60% buff to lt brown f xyn anhydrite.

515.1 m (1690')-95% buff to lt brown microsparite, tr pyrite, 5% clear selenite.

518.2 m (1700')-25% buff to brown microsparite, 10% buff to brown dolomitic (f xyn) microsparite, 10% buff to lt brown microsparitic f xyn dolostone, 46% white gypsiferous f xyn dolostone, tr lt buff chert, 5% clear selenite, 3% white f xyn gypsum, 1% dk grey shale, tr pyrite.

521.2 m (1710')-2% lt brown microsparite, 20% white microsparitic f to m xyn gypsum, 34% clear selenite, 1% brownish grey chert, 43% lt brown f xyn dolostone, tr dk grey shale.

524.3 m (1720')-5% white c xyn gypsum xtal frags, 95% lt brown microsparite.

527.3 m (1730')-90% lt to m brown dolomitic (f xyn) microsparite, 5% clear selenite, tr lt buff chert, 5% white c xyn gypsum xtal frags.

530.4 m (1740')-5% white c xyn gypsum xtal frags, 92% lt brown dolomitic (f to m xyn) microsparite, 3% clear selenite.

533.4 m (1750')-10% white c xyn gypsum xtal frags, 89% lt brown dolomitic (f to m xyn) microsparite, tr pyrite, 1% clear selenite.

536.4 m (1760')-94% lt brown microsparitic f to m xyn dolostone, tr stylolites, tr pyrite, 1% selenite, 5% white f xyn gypsum.

539.5 m (1770')-50% lt brown dolomitic (f xyn) microsparite, 30% lt brown microsparite, 15% white to vlt grey microsparite, 5% clear selenite.

542.5 m (1780')-90% buff to lt brown microsparitic f xyn dolostone, 10% selenite, tr lt buff chert, tr pyrite, tr vlt buff anhydrite.

545.6 m (1790')-1% microsparite, 93% buff to lt brown very f xyn microsparitic anhydrite, 5% white c xyn gypsum xtal frags, 1% buff chert, tr dk grey shale.

548.6 m (1800')-84% lt brown microsparitic anhydrite, 10% vlt buff anhydrite, 1% buff to lt brown chert, 5% white c xyn gypsum xtal frags.

551.7 m (1810')-20% lt buff to brown microsparite, 50% lt brown microsparitic f xyn dolostone, 15% clear selenite, 15% white c xyn gypsum xtal frags.

554.7 m (1820')-64% lt brown microsparite, 15% clear selenite, 20% white c xyn gypsum xtal frags, 1% dk grey shale.

557.8 m (1830')-5% clear selenite, 15% white f(?) xyn gypsum, 2% dk grey shale, 78% lt brown microsparite.

560.8 m (1840')-80% white to brown gypsiferous f xyn anhydrite, 20% white c xyn gypsum xtal frags, tr dk grey shale.

563.9 m (1850')-90% lt brown m xyn dolostone w/ up to 20% porosity (in part filled w/ gypsum), 5% dk grey silty shale, tr rd c quartz gns, 5% white c xyn gypsum xtal frags.

566.9 m (1860')-tr rd c (sand-sized) chert gns, tr lt grey chert, tr clear selenite, 1% white c xyn gypsum xtal frags, 1% dk grey shale, 98% lt brown m xyn dolostone w/ porosity to 20%.

570.0 m (1870')-tr pyrite, 93% buff to lt brown m xyn dolostone w/ up to 20% porosity, 1% dk grey shale, 1% dolomitic (very f xyn) microsparite, 5% sparry m xyn dolostone.

573.0 m (1880')-2% white c xyn gypsum xtal frags fill or line fractures, 1% soft black shale, 55% buff to lt brown f xyn dolostone w/ up to 20% porosity in part filled w/ white gypsum, vugs to 0.3 mm in size, 2% lt brown microsparite, 40% lt brown sparry f xyn dolostone.

576.1 m (1890')-5% lt brown microsparite, 30% buff microsparitic f xyn dolostone, 65% lt buff f xyn dolostone w/ up to 20% interxyn porosity.

579.1 m (1900')-84% lt buff microsparitic f xyn dolostone, 15% white c xyn gypsum xtal frags, 1% clear selenite.

582.2 m (1910')-20% lt brown microsparite, 15% white c xyn gypsum xtal frags, 2% clear selenite, tr dk grey shale, 63% lt buff to buff very f to f xyn dolostone.

585.2 m (1920')-40% lt buff to buff microsparitic f xyn dolostone, 40% white f xyn gypsum, 20% buff to lt brown f xyn dolostone, tr dk grey shale.

588.3 m (1930')-10% buff microsparite, 20% lt buff microsparitic f xyn dolostone, 70% vlt buff f xyn dolostone w/ up to 15% porosity, tr selenite.

591.3 m (1940')-40% lt brownish grey sparry f xyn dolostone, 10% buff microsparite, 50% lt brownish grey f xyn dolostone.

594.4 m (1950')-40% white f xyn gypsiferous anhydrite, 60% buff to lt brown f xyn anhydrite.

597.4 m (1960')-30% buff sparry f xyn dolostone, 5% buff f xyn sparite, 65% white f xyn anhydrite.

600.5 m (1970')-5% buff microsparite, 94% buff very f to f xyn dolostone, 1% dk grey shale.

603.5 m (1980')-30% lt buff microsparite, 3% dk grey shale, 67% lt to m brown dolostone, tr

clear selenite.

606.6 m (1990')-80% microsparite, 5% white gypsum (mainly lining fractures in microsparite), minor low-amplitude stylolites, 10% buff microsparitic f xyn dolostone, 5% white f xyn dolostone.

609.6 m (2000')-5% dk grey shale, 90% lt buff to brown microsparite, 5% white c xyn gypsum, tr clear selenite.

612.6 m (2010')-15% buff sl anhydritic/sl argil microsparite, 85% buff microsparitic m xyn dolostone, tr dk grey shale, tr selenite, tr grey chert.

615.7 m (2020')-93% lt brown sl sparry f to m xyn dolostone w/ up to 20% interxyn porosity, 5% white c xyn gypsum xtal frags, gypsum also fills fractures and interxyn pores in dolostone, 2% lt brown microsparite, tr pyrite, tr dk grey shale, tr clear selenite.

618.7 m (2030')-60% lt brown microsparite, 40% lt buff f xyn dolostone, tr white f xyn anhydrite, tr gypsum. Minor bitumen fills interxyn pores.

621.8 m (2040')-60% lt brown microsparite, tr anhydrite and clear selenite, 39% f to m xyn sparite w/ 25% ossicles (some have pentagonally-shaped exteriors), 1% black shale, minor low-amplitude stylolites.

624.8 m (2050')-67% lt brown to buff microsparitic f to m xyn dolostone, 30% f to m xyn dolostone, 1% dk grey shale, 2% white f xyn gypsum, tr white anhydrite, tr ossicles.

627.9 m (2060')-15% buff sparry f to m xyn dolostone, 82% buff to lt brown f xyn anhydrite, 2% buff microsparite, 1% dk grey shale.

630.9 m (2070')-3% buff microsparite, 30% white to buff f xyn anhydrite, 4% buff microsparitic f xyn dolostone, 62% lt buff very f to f xyn dolostone w/ up to 20% interxyn porosity in part filled w/ white f xyn gypsum, tr clear anhydrite xtals to 0.5 mm in size, 1% vdk brownish grey shale, tr selenite and bitumen.

634.0 m (2080')-1% microsparitic very f gn quartz sandstone, 20% lt brown f xyn anhydrite, 40% buff microsparitic very f to f xyn dolostone, 39% very f to f xyn dolostone, tr black chert, tr clear anhydrite xtals to 0.5 mm, tr vdk brownish grey shale.

637.0 m (2090')-88% buff to brown microsparitic f to m xyn dolostone, 10% buff to brown microsparite, 2% buff f xyn anhydrite.

640.1 m (2100')-30% lt brown very f to f xyn dolostone, 2% white gypsum, 30% buff f xyn anhydrite, 27% brown microsparitic f xyn dolostone, 10% white f xyn gypsum, 1% dk grey shale.

643.1 m (2110')-60% brown microsparite, 2% vdk brownish grey shale, 5% lt brown f xyn anhydrite, 33% dolomitic (f to m xyn) microsparite.

646.2 m (2120')-59% white to lt brown f xyn anhydrite, 10% brown microsparite, 10% buff to lt brown microsparitic f xyn dolostone, 10% lt brown dolomitic microsparite, 10% lt buff f to m xyn dolostone, 1% vdk grey shale.

649.2 m (2130')-60% lt brown f xyn anhydrite, 20% lt brown microsparitic anhydrite, 10% lt brown microsparite, 10% lt buff f xyn dolostone, tr dk brownish grey shale.

652.3 m (2140')-10% vdk brownish grey shale, 10% buff f xyn anhydrite, 70% lt brown microsparite (in part dolomitic), 5% white f xyn gypsum, 5% vlt buff f xyn dolostone w/ minor bitumen in pores, tr pyrite, tr high-amplitude stylolites accentuated w/ bitumen.

655.3 m (2150')-5% lt buff chert, 2% lt brown microsparite, 10% lt buff f xyn dolostone, 83% buff to lt brown f xyn anhydrite.

658.4 m (2160')-1% buff chert, 1% lt brown microsparite, tr dk grey shale, 5% lt brown very f xyn dolostone, 93% buff f xyn anhydrite.

661.4 m (2170')-3% lt brown microsparite, 2% lt brown dolomitic microsparite, 2% white f xyn gypsum, 78% lt buff f xyn dolostone, 15% buff f xyn anhydrite.

664.5 m (2180')-tr dk grey shale, 10% vlt buff very f to f xyn dolostone (in part microsparitic w/ minor shale partings), 10% buff f xyn anhydrite, 50% brown microsparite, 30% brown dolomitic (f xyn) microsparite, tr vlt buff chert, tr white c xyn gypsum xtal frags, minor low-amplitude stylolites in carbonate, tr pyrite.

667.5 m (2190')-53% lt brown microsparite (in part dolomitic), 25% white to vlt buff f xyn dolostone, 10% dolomitic (f xyn) microsparite, 2% buff f xyn anhydrite, 10% white c xyn gypsum xtal frags, tr dk grey shale.

670.6 m (2200')-70% brown microsparite, 25% lt buff gypsum, 5% white f xyn dolostone, tr

colonial corals,

673.6 m (2210')-25% buff f xyn anhydrite, 20% brown microsparite, 20% buff sparry f xyn dolostone, 20% lt brown microsparite, 10% lt brown dolomitic (f xyn) microsparite, 5% white f xyn gypsum (especially lining fractures).

UNIT E (677-932 m, 2221-3058')

676.7 m (2220')-20% brown f xyn anhydrite, 5% brown microsparite, 10% buff dolomitic (f xyn) microsparite, 40% buff sparry/microsparitic f xyn dolostone (in part anhydritic), 25% buff f xyn dolostone, tr dk grey shale, tr white f xyn gypsum.

679.7 m (2230')-20% brown microsparite, tr dk grey shale, 10% buff to lt brown dolomitic microsparite, 20% buff microsparitic f xyn dolostone, 25% lt buff f xyn dolostone (w/ high porosity), 25% white to buff f xyn anhydrite, tr gypsum (filling fractures).

682.8 m (2240')-10% brown microsparite, 10% white to buff f xyn anhydrite, 20% lt brown dolomitic (f xyn) microsparite, 5% buff microsparitic f xyn dolostone, 55% lt buff very f to f xyn dolostone, tr white gypsum, tr dk grey shale.

685.8 m (2250')-75% buff anhydritic very f xyn dolostone, 20% white to brown f xyn anhydrite, tr dk grey shale, 5% buff microsparitic f xyn dolostone.

688.8 m (2260')-25% buff microsparite, 45% white to brown f xyn anhydrite, 15% buff sparry f xyn dolostone, 10% buff dolomitic (f xyn) microsparite, 5% lt buff f xyn dolostone, tr dk grey shale.

691.9 m (2270')-20% white to lt brown f xyn anhydrite, 50% buff very f to f xyn dolostone, 15% buff microsparitic very f xyn dolostone, 15% buff dolomitic (f xyn) microsparite, tr dk grey shale.

694.9 m (2280')-5% brown microsparite, 15% buff to brown dolomitic (f xyn) microsparite, 60% white to brown f xyn anhydrite, 10% buff microsparitic f xyn dolostone, 10% lt buff very f to f xyn dolostone.

698.0 (2290')-5% white to brown f xyn anhydrite, 80% white to brown f xyn anhydrite, 10% brown microsparite, 5% buff microsparitic f xyn dolostone.

701.0 m (2300')-10% brown microsparite, 15% microsparitic f xyn dolostone (in part anhydritic), tr dk grey shale, 10% buff sparry f xyn dolostone and f xyn dolostone, 64% white to brown f xyn anhydrite, tr clear anhydrite xtals to 1 mm, 1% white gypsum.

704.1 m (2310')-20% brown microsparite, 10% buff dolomitic (f xyn) microsparite, 69% white to brown f xyn anhydrite, tr clear anhydrite xtal frags to 1 mm in size, 1% dk grey shale.

707.1 m (2320')-1% brown microsparite, 2% brown dolomitic (f xyn) microsparite, 10% buff very f xyn dolostone, 87% white to brown f xyn anhydrite.

710.2 m (2330')-1% microsparite, 99% white to brown f xyn anhydrite.

713.2 m (2340')-14% brown microsparite, 25% white to brown f xyn anhydrite, 60% dk brown f xyn dolostone, 1% dk grey shale.

716.3 m (2350')-15% buff microsparite, 10% dolomitic (f xyn) microsparite, 5% buff microsparitic f xyn dolostone, 5% buff to brown bitumenous f to m xyn dolostone w/ up to 20% interxyn porosity (in part filled w/ bitumen), tr dk grey shale, 65% white to brown very f to f xyn anhydrite.

719.3 m (2360')-tr rd m sand-sized quartz gns, 20% buff microsparite, 10% buff dolomitic microsparite, 5% buff microsparitic f xyn dolostone, 10% buff to brown f to m xyn dolostone w/ up to 20% porosity (in part filled w/ bitumen), 1% dk grey shale, 53% white to brown f xyn anhydrite, 1% clear anhydrite xtal frags.

722.4 m (2370')-10% white to buff f xyn anhydrite, 5% buff microsparite, 10% buff dolomitic f xyn microsparite, 5% buff microsparitic f xyn dolostone, 70% buff to brown f xyn dolostone w/ up to 20% interxyn porosity.

725.4 m (2380')-10% buff microsparite, 10% buff dolomitic microsparite, 5% buff f to m xyn microsparitic f xyn dolostone, 10% white to brown f xyn anhydrite, 64% buff to brown f to m xyn dolostone w/ up to 20% interxyn porosity, 1% dk grey shale.

728.5 m (2390')-10% buff microsparite, 20% white to brown f xyn anhydrite, 15% buff dolomitic microsparite, tr buff chert, 10% microsparitic f to m xyn dolostone, 40% buff to brown f to m xyn dolostone w/ up to 15% interxyn porosity, tr rd c sand-sized quartz

gns, 5% white very f xyn gypsum.

731.5 m (2400')-5% buff microsparite, 15% buff dolomitic (f xyn) microsparite, 5% buff microsparitic f xyn dolostone, 20% white to brown f xyn anhydrite, 30% white very f xyn gypsum, 25% buff very f to f xyn dolostone.

734.6 m (2410')-1% brown microsparite, 25% white to brown very f to f xyn anhydrite, 74% brown f to m xyn dolostone w/ up to 10% interxyn porosity (in part filled w/ bitumen).

737.6 m (2420')-2% white to brown f xyn dolomitic anhydrite, 1% buff dolomitic microsparite, 97% brown m xyn dolostone.

740.7 m (2430')-5% buff dolomitic microsparite, 10% white very f to f xyn gypsum, 15% brown f xyn anhydrite, 70% brown f to m xyn dolostone.

743.7 m (2440')-1% buff sparry f to m xyn dolostone, 99% brown f to m xyn dolostone w/ shale partings and up to 25% interxyn and vuggy porosity (in part filled w/ bitumen).

746.8 m (2450')-2% white f xyn gypsum, 1% dk grey shale, 2% buff f xyn anhydrite, 95% brown f to m xyn dolostone w/ up to 20% porosity (in part filled w/ bitumen), minor shale partings, tr sparry dolostone, tr c xyn sparite.

749.8 m (2460')-10% white f xyn gypsum, 20% white to brown f xyn anhydrite, 2% dk grey shale, 5% white f(?) xyn gypsum, 1% buff microsparite, 2% buff dolomitic sparite, 60% brown f to m xyn dolostone.

752.9 m (2470')-2% buff microsparite, tr dk grey shale, 98% brown f to m xyn dolostone.

755.9 m (2480')-2% buff microsparite, 1% buff dolomitic microsparite, tr pyrite, 5% white to brown f xyn anhydrite, 1% dk grey shale, 91% brown very f to f xyn dolostone w/ minor shale partings, tr white f xyn gypsum.

759.0 m (2490')-3% white f xyn gypsum, 3% lt buff microsparite, 5% white to buff f xyn anhydrite, 3% buff dolomitic (f xyn) microsparite, 1% sparry f xyn dolostone, 5% white f xyn gypsum, 80% white to brown f to m xyn dolostone w/ up to 20% porosity (in part filled w/ bitumen), tr dk grey shale.

762.0 m (2500')-5% buff microsparite, 5% buff dolomitic (f xyn) microsparite, 30% white to buff f xyn anhydrite, 10% white f xyn gypsum, 50% buff to brown very f to m xyn dolostone w/ minor shale partings and up to 20% interxyn porosity (in part filled w/ gypsum).

765.0 m (2510')-3% lt brown microsparite, 10% buff dolomitic (f xyn) microsparite, 3% buff sparry f xyn dolostone, 5% white to brown f xyn anhydrite, 3% white f xyn gypsum, 76% buff to brown f to m xyn dolostone, tr dk grey shale.

768.1 m (2520')-5% buff microsparite, 10% buff dolomitic microsparite, 2% buff microsparitic f xyn dolostone, 5% white to buff f xyn anhydrite, 3% white f(?) xyn gypsum, 75% buff to brown f to m xyn dolostone w/ up to 10% interxyn porosity and w/ minor dk grey shale partings.

771.1 m (2530')-aa.

774.2 m (2540')-1% white f xyn gypsum, 5% dk grey shale, tr microsparite and dolomitic microsparite, 1% white to brown f xyn anhydrite, 93% buff to brown very f to m xyn dolostone w/ tr ossicles.

777.2 m (2550')-2% buff microsparite, 1% white c xyn gypsum xtal frags, 94% buff to brown f to m xyn dolostone w/ 3% dk grey shale partings.

780.3 m (2560')-15% buff microsparite, 10% buff sparite and minor dolomitic microsparite, 2% lt buff to buff microsparitic very f to m xyn dolostone, 5% dk grey shale, 3% white f xyn gypsum, 3% white to buff anhydrite, 62% buff to brown very f to m xyn dolostone.

783.3 m (2570')-5% buff microsparite, 10% buff dolomitic microsparite, 1% buff microsparitic dolostone, 10% white to brown f xyn anhydrite, 5% dk grey shale, 69% lt buff to brown argil very f to m xyn dolostone w/ shale partings.

786.4 m (2580')-5% buff microsparite, 10% buff dolomitic microsparite, 2% lt buff microsparitic f xyn dolostone, 5% white to buff f xyn anhydrite, 3% dk grey shale, 75% lt buff to brown very f to f xyn dolostone.

789.4 m (2590')-5% white to buff f xyn anhydrite, 5% buff microsparite, 10% buff dolomitic microsparite, tr pyrite, 10% white to buff f xyn anhydrite, 3% white f(?) xyn gypsum, 1% dk grey shale, 66% buff to brown f to m xyn dolostone.

792.5 m (2600')-2% buff microsparite, 5% white to buff f xyn anhydrite, 2% buff dolomitic

(f xyn) microsparite, 1% buff microsparitic f xyn dolostone, 1% dk grey shale (as shale partings), 89% white to brown f to m xyn dolostone, tr lt olive rd c sand-sized chert gns, tr white f xyn gypsum.

795.5 m (2610')-5% buff microsparite, 1% white f xyn gypsum, 3% buff dolomitic microsparite, 3% opaque white gypsum xtal frags to 1 mm, 1% white to buff f xyn anhydrite, 1% dk grey shale, 86% white to brown f xyn dolostone w/ up to 10% interxyn porosity.

798.6 m (2620')-10% buff microsparite, 5% buff dolomitic microsparite, 5% white to brown f xyn anhydrite, 2% buff microsparitic f xyn dolostone, 2% dk grey shale, 2% white opaque gypsum xtal frags to 1 mm, 74% white to buff f to m xyn dolostone.

801.6 m (2630')-tr ossicles, 3% buff microsparite, 1% opaque white gypsum xtal frags to 1 mm, 3% buff dolomitic microsparite, 2% buff microsparitic f xyn dolostone, 91% white to brown f to m xyn dolostone w/ up to 10% interxyn porosity.

804.7 m (2640')-4% opaque white gypsum xtals to 1 mm, 5% white to brown f xyn anhydrite, 15% buff microsparite, 5% buff dolomitic (f xyn) microsparite, 5% buff microsparitic f xyn dolostone, tr rd c sand-sized monoxyn quartz gns, tr dk grey shale, 66% white to brown f xyn dolostone w/ up to 10% porosity, tr bitumen.

807.7 m (2650')-tr dk grey chert, 15% white to brown f xyn anhydrite, tr buff microsparite, 2% buff dolomitic microsparite, tr buff microsparitic very f to f xyn dolostone, 83% buff very f-f xyn dolostone.

810.8 m (2660')-10% buff microsparite, 5% buff dolomitic microsparite, 15% white to brown f xyn anhydrite, 70% buff to brown very f to f xyn dolostone w/ up to 15% porosity.

813.8 m (2670')-2% lt buff microsparite, 10% buff dolomitic microsparite, 10% white to brown f xyn anhydrite, 2% buff microsparitic f xyn dolostone, 3% thin dk grey shale partings, 72% lt buff to brown very f to f xyn dolostone, in part anhydritic, 1% white gypsum xtal frags.

816.9 m (2680')-5% buff microsparite, 10% buff dolomitic (f xyn) microsparite, 5% buff microsparitic f xyn dolostone, 5% white to brown f xyn anhydrite, tr clear selenite, tr pyrite, 75% buff to brown f to m xyn dolostone w/ tr ossicles, minor bitumen fills pores.

819.9 m (2690')-5% buff microsparite, 10% buff dolomitic microsparite, 3% buff microsparitic dolostone, 4% white to brown anhydrite, 1% white gypsum xtal frags, 76% white to brown very f to m xyn dolostone, tr buff chert and tr rd c gn sand-sized chert gns, 1% dk grey shale.

823.0 m (2700')-5% buff microsparite, 10% buff dolomitic (f xyn) microsparite, 10% microsparitic very f to f xyn dolostone, tr lt brown rd chert gns to 3.3 mm in size, 5% white to buff f xyn anhydrite, 68% buff to brown f to m xyn dolostone, tr buff chert, 2% white gypsum (in part filling fractures).

826.0 m (2710')-3% buff microsparite, 10% buff dolomitic (f xyn) microsparite, 10% buff microsparitic f xyn dolostone, 2% white to buff f xyn anhydrite, tr dk grey shale, tr clear anhydrite xtal frags to 0.5 mm in size, 75% white to brown f to m xyn dolostone.

829.1 m (2720')-20% buff microsparite, 5% buff dolomitic (f xyn) microsparite, 10% microsparitic f xyn dolostone, tr white to buff f xyn anhydrite, tr lt buff chert, 5% white to brown f xyn anhydrite, 60% buff very f to m xyn dolostone, tr dk grey shale, tr white gypsum.

832.1 m (2730')-5% buff microsparite, 5% buff dolomitic (f xyn) microsparite, 5% buff microsparitic f xyn dolostone, 2% white to buff f xyn anhydrite, 3% white gypsum, tr dk grey shale, 80% buff very f to m xyn dolostone, tr white gypsum.

835.2 m (2740')-20% buff microsparite, 10% buff dolomitic (f xyn) microsparite, tr rd m gn sand-sized quartz gns, 5% buff microsparitic f xyn dolostone, 10% white gypsum, 3% white to buff anhydrite, 51% buff very f to m xyn dolostone, 1% dk grey shale.

838.2 m (2750')-13% buff microsparite, 5% buff dolomitic (f xyn) microsparite, 5% buff microsparitic f xyn dolostone, 30% white to buff f xyn anhydrite, 45% buff to brown very f to m xyn dolostone, 2% white gypsum, tr high-amplitude stylolites.

841.2 m (2760')-20% buff microsparite, 5% buff dolomitic microsparite, 3% buff microsparitic f xyn dolostone, 10% white to buff f xyn anhydrite, 1% white gypsum, 1% dk grey shale, 60% buff to brown f to m xyn dolostone.

844.3 m (2770')-20% buff microsparite, 5% buff dolomitic (f xyn) microsparite, 5% microsparitic f xyn dolostone, 10% clear to buff anhydrite, 1% dk grey shale, 59% buff to brown very f to m xyn dolostone w/ thin shale partings.

847.3 m (2780')-60% buff microsparite, 38% vlt buff very f xyn dolostone, 1% white anhydrite, 1% white gypsum.

850.4 m (2790')-35% lt brown microsparite, 5% lt brown dolomitic (f xyn) microsparite, 3% buff microsparitic/sparry f xyn dolostone, tr buff chert, 3% white to buff f xyn anhydrite, tr selenite, tr dk grey shale, 54% lt buff poorly indurated very f to f xyn dolostone.

853.4 m (2800')-10% buff microsparite, 10% buff dolomitic (f xyn) microsparite, 5% buff microsparitic/sparry f xyn dolostone, tr buff chert, 10% white to buff f xyn anhydrite, 64% lt buff to buff f xyn dolostone, tr dk grey shale, 1% white gypsum.

856.5 m (2810')-3% buff microsparite, 5% buff dolomitic (f xyn) microsparite, 3% buff microsparitic/sparry f xyn dolostone, tr buff chert, 3% white to buff f xyn anhydrite, 85% buff f xyn dolostone w/ up to 25% interxyn porosity, 1% white gypsum.

859.5 m (2820')-3% buff microsparite, 2% buff dolomitic (f xyn) microsparite, 5% microsparitic/sparry f xyn dolostone, tr rd c sand-sized monoxyn quartz gns, 10% white to buff f xyn anhydrite, 78% lt buff f xyn dolostone w/ up to 25% interxyn porosity, tr lt buff chert, 2% white opaque gypsum.

862.6 m (2830')-10% buff microsparite, 3% buff dolomitic (f xyn) microsparite, 10% buff microsparitic/sparry f xyn dolostone, 5% white to buff f xyn anhydrite, tr dk grey shale, 70% lt buff to buff very f to f xyn dolostone, tr pyrite, 2% opaque white gypsum.

865.6 m (2840')-10% buff microsparite, 5% buff dolomitic (f xyn) microsparite/f xyn sparite, 15% buff to brown microsparitic/sparry f xyn dolostone, 5% white f xyn anhydrite, tr dk grey shale, tr white chert, 2% white gypsum, 63% lt buff f xyn dolostone w/ up to 15% interxyn porosity.

868.7 m (2850')-15% buff microsparite, 3% buff dolomitic (f xyn) microsparite/f xyn sparite, 30% lt buff to buff microsparitic/sparry f xyn dolostone, 10% white to buff f xyn anhydrite, tr ossicles, 1% dk grey shale, 39% buff to brown very f to f xyn dolostone, 2% white gypsum.

871.7 m (2860')-15% buff microsparite, 3% buff dolomitic microsparite, 10% buff to brown microsparitic/sparry f xyn dolostone, 10% white to buff f xyn anhydrite, 60% buff f xyn dolostone, 2% white gypsum, tr buff chert.

874.8 m (2870')-10% buff microsparite, 5% buff dolomitic (very f to f xyn) microsparite, 5% microsparitic very f to f xyn dolostone, 3% white to buff f xyn anhydrite, 73% buff very f to f xyn dolostone, 4% white gypsum, tr dk grey shale, tr ossicles(?).

877.8 m (2880')-30% buff microsparite, 2% dolomitic microsparite, 2% buff microsparitic/sparry f xyn dolostone, tr anhydrite, 2% white gypsum, 64% buff to brown very f to f xyn dolostone.

880.9 m (2890')-25% buff microsparite, 5% dolomitic microsparite, tr brown chert, 5% sparry f xyn dolostone, 5% white to buff f xyn anhydrite, 57% buff to brown f xyn dolostone, 3% white gypsum.

883.9 m (2900')-20% buff microsparite, 3% buff dolomitic microsparite, 10% microsparitic/sparry f xyn dolostone, tr white to buff f xyn anhydrite, 65% buff to brown f to m xyn dolostone, 2% white gypsum.

887.0 m (2910')-10% buff microsparite, 3% buff dolomitic f xyn sparite, 20% brown microsparitic/sparry f to m xyn dolostone, tr ossicles, 5% white to buff f xyn anhydrite, 5% white gypsum, tr dk grey shale, 57% brown f to m xyn dolostone.

890.0 m (2920')-10% buff microsparite, 5% buff dolomitic (f to m xyn) microsparite, 10% brown microsparitic/ sparry f to m xyn dolostone, 3% white f xyn anhydrite, 5% white gypsum, 67% brown f to m xyn dolostone, tr pyrite, tr dk grey shale.

893.1 m (2930')-15% buff microsparite, 5% buff dolomitic (f xyn) microsparite, tr pyrite, 20% lt brown sparry f xyn dolostone, 3% white f xyn gypsum, 2% white to buff f xyn anhydrite, 55% lt brown f to m xyn dolostone.

896.1 m (2940')-5% buff microsparite, 3% buff dolomitic microsparite, 15% buff to brown f to m xyn dolostone, 1% white f xyn anhydrite, 63% brown f to m xyn dolostone, tr

pyrite, 13% white f xyn gypsum.

899.2 m (2950')-4% buff microsparite, 2% buff dolomitic microsparite, 25% lt brown microsparitic f to m xyn dolostone, 3% white gypsum, 66% brown f to m xyn dolostone, tr pyrite, tr white to buff f xyn anhydrite.

902.2 m (2960')-5% buff microsparite, 5% buff dolomitic microsparite/sparite, 15% microsparitic/sparry f xyn dolostone, tr pyrite, 2% white to buff f xyn anhydrite, 4% white gypsum, 69% lt brown f to m xyn dolostone.

905.3 m (2970')-10% buff microsparite, tr buff dolomitic microsparite, 40% buff microsparitic/sparry f xyn dolostone, 40% brown very f to m xyn dolostone, tr dk grey shale, 10% white gypsum.

908.3 m (2980')-tr dk grey shale, 10% buff microsparite, 20% lt buff f xyn sparite, 2% buff dolomitic microsparite, 2% white to buff f xyn anhydrite, 1% clear selenite, 10% gypsum, 55% brown f to m xyn dolostone, tr buff chert.

911.4 m (2990')-15% buff microsparite, 5% buff dolomitic f xyn sparite, 35% brown sparry f xyn dolostone, 5% white gypsum, tr pyrite, 39% brown f to m xyn dolostone, tr dk grey shale, 1% white to buff anhydrite.

914.4 m (3000')-10% buff microsparite, 5% clear f xyn sparite, 10% lt brown sparry f xyn dolostone, 75% white to brown very f to m xyn dolostone, tr pyrite, tr dk grey shale, tr white gypsum, tr anhydrite, tr selenite.

917.4 m (3010')-15% buff microsparite, tr ossicles, tr pyrite, 15% brown sparry f xyn dolostone, 70% brown f xyn dolostone.

920.5 m (3020')-5% buff microsparite, 20% buff sparry f xyn dolostone, 75% white to buff very f to f xyn dolostone, tr white gypsum, tr white to buff f xyn anhydrite.

923.5 m (3030')-40% buff microsparite, 15% buff sparry f xyn dolostone, 40% brown f xyn dolostone, 5% white gypsum.

926.6 m (3040')-10% buff microsparite, 10% buff sparry dolostone, 15% white to buff anhydrite, 3% white gypsum, 58% brown f to m xyn dolostone, tr pyrite, 3% clear spar.

929.6 m (3050')-tr buff microsparite, 10% white to buff f xyn anhydrite, 5% buff to brown sparry f xyn dolostone, 3% clear anhydrite xtal frags, 82% white to brown very f to f xyn dolostone, tr white gypsum.

UNIT D (932-1000 m, 3058-3281')

932.7 m (3060')-tr lt buff chert, 10% buff sparry f xyn dolostone, 3% white to buff f xyn anhydrite, 87% white to brown very f to f xyn dolostone.

935.7 m (3070')-10% white to buff f xyn anhydrite, 5% lt buff sparite, 85% white to brown very f to f xyn dolostone, tr dk grey shale.

938.8 m (3080')-tr dk grey shale, tr lt buff chert, tr dolomitic sparite, 1% sparite, 94% vlt buff to brown very f to f xyn dolostone, 5% white to buff f xyn anhydrite.

941.8 m (3090')-tr buff sparite, 1% buff sparry f xyn dolostone, 4% white to buff f xyn anhydrite, tr clear selenite, tr white opaque gypsum, tr dk grey shale, 95% brown very f to m xyn dolostone, tr clear anhydrite xtal frags to 2 mm in size.

944.9 m (3100')-tr dk grey shale, 1% buff microsparite, 3% sparry f to m xyn dolostone, 5% white to buff f xyn anhydrite, tr white gypsum, 91% brown very f to m xyn dolostone.

947.9 m (3110')-tr buff microsparite, 3% white to buff f xyn anhydrite, tr clear selenite, 97% brown very f to m xyn dolostone, tr white opaque gypsum.

951.0 m (3120')-tr pyrite, 5% buff microsparite, 5% brown f to m xyn sparry dolostone, 1% white to buff f xyn anhydrite, tr gypsum, 89% brown f to m xyn dolostone.

954.0 m (3130')-1% buff microsparite, 1% buff sparry f xyn dolostone, tr pyrite, 1% clear selenite, 2% white to f xyn anhydrite, tr m to c xyn sparite, 95% brown very f to m xyn dolostone, tr gypsum, tr dk grey shale.

957.1 m (3140')-2% buff microsparite, 2% white gypsum, tr dk grey shale, 1% buff dolomitic sparite, 1% buff sparry f xyn dolostone, 94% brown f to m xyn dolostone.

960.1 m (3150')-tr dk grey shale, 3% buff microsparite, 1% buff sparry f xyn dolostone, 1% white to buff f xyn anhydrite, tr dolomitic (f xyn) microsparite, 94% brown f to m xyn dolostone, tr dk grey shale, 1% white gypsum.

963.2 m (3160')-5% buff microsparite, 3% buff dolomitic (f xyn) microsparite, 5% buff to brown sparry f xyn dolostone, tr white to buff f xyn anhydrite, tr white gypsum, 87% brown very f to m xyn dolostone.
966.2 m (3170')-1% buff microsparite, tr m to c xyn sparite, 1% buff dolomitic (f xyn) microsparite, 1% buff to brown sparry f xyn dolostone, tr lt buff chert, tr white to buff f xyn anhydrite, 3% opaque white gypsum xtal frags, 94% brown f to m xyn dolostone.
969.3 m (3180')-tr clear selenite, tr buff microsparite, tr dolomitic (f xyn) microsparite, tr brown sparry f xyn dolostone, 100% brown f to m xyn dolostone, tr white to buff f xyn anhydrite.
972.3 m (3190')-5% buff microsparite, tr clear selenite xtal frags, tr white to buff anhydrite, 95% brown very f to m xyn dolostone.
975.4 m (3200')-5% buff microsparite, tr pyrite, 1% opaque white gypsum xtal frags, tr white to buff f xyn anhydrite, tr sparry dolostone, 93% buff to brown f to m xyn dolostone, 1% m to c xyn clear dolospar.
978.4 m (3210')-4% buff microsparite, tr pyrite, tr white gypsum xtal frags, tr white to buff f xyn anhydrite, 96% brown f to m xyn dolostone, tr dolomitic (f xyn) sparite.
981.5 m (3220')-5% buff microsparite, 1% white f xyn anhydrite, tr clear selenite, 94% white to brown very f to f xyn dolostone, tr pyrite, tr dk grey shale partings.
984.5 m (3230')-5% buff microsparite, 5% buff dolomitic (f xyn) microsparite, tr dk grey shale, 89% buff to brown f to m xyn dolostone, 1% white gypsum xtal frags, tr clear selenite.
987.6 m (3240')-tr clear selenite, tr dk grey shale, 5% buff dolomitic microsparite, 10% white f xyn anhydrite, 85% buff to brown f to m xyn dolostone.
990.6 m (3250')-1% white to buff anhydrite, 3% buff microsparite, tr dk grey shale, 96% lt buff to brown very f to f xyn dolostone, tr white gypsum, tr pyrite.
993.6 m (3260')-tr dk grey shale, 10% buff microsparite, 5% buff dolomitic (f xyn) microsparite, 85% buff to brown very f to f xyn dolostone, tr buff chert, tr pyrite.
996.7 m (3270')-20% buff microsparite, tr white c xyn gypsum xtal frags, 3% white to buff f xyn anhydrite, 77% buff to brown very f to f xyn dolostone.
999.7 m (3280')-1% white to brown f xyn anhydrite, tr clear selenite, 15% dolomitic (f xyn) microsparite, 84% lt buff to brown very f to f xyn dolostone.

UNIT C (1000-1028 m, 3281-3373')

1002.8 m (3290')-tr clear selenite, tr dk grey shale, 100% buff very f xyn anhydrite, tr buff m xyn dolostone.
1005.8 m (3300')-1% dk grey shale, 1% white to buff f xyn anhydrite, 98% lt buff to brown very f xyn anhydrite.
1008.9 m (3310')-99% lt brown very f xyn anhydrite, 1% siltstone, tr very f xyn white gypsum, tr selenite xtals.
1011.9 m (3320')-aa, anhydrite is very f xyn (mode 10μm) w/ minor amount to m xyn, selenite to 1.5 mm.
1015.0 m (3330')-99% brown very f xyn anhydrite, 1% spar, tr white gypsum.
1018.0 m (3340')-aa.
1021.1 m (3350')-99% lt brown very f xyn anhydrite, 1% white very f xyn gypsum, tr selenite.
1024.1 m (3360')-aa.
1027.2 m (3370')-97% anhydrite aa, 3% very f xyn white gypsum, tr black shale, tr selenite.

UNIT B (1028-1142 m, 3373-3747')

1030.2 m (3380')-97% lt brown very f xyn dolostone and 3% white very f xyn gypsum.
1033.3 m (3390')-90% lt brown very f to f xyn dolostone w/ 5% interxyn porosity, minor proportion cemented by spar, some contains gypsum laths on fracture surfaces, 5% white aphanocrystalline to very f xyn gypsum, tr selenite, tr black shale, tr black interxyn bitumen.
1036.3 m (3400')-100% lt brown very f to m xyn dolostone w/ 5% porosity, tr spar, bitumen.
1039.4 m (3410')-95% very f to f xyn dolostone w/ 5% interxyn porosity, 5% gypsum.

1042.4 m (3420')-5% aphanoxyn white gypsum, 94% very f to f xyn dolostone aa w/ 1% quartz gns to 700μm in size, tr black shale, tr selenite.
1045.5 m (3430')-5% white aphanoxyn/very f xyn gypsum, tr calcite, 1% quartz gns, 94% lt brown f to m xyn dolostone w/ 5% interxyn porosity, tr brittle black bitumen.
1048.5 m (3440')-aa w/ tr black shale.
1051.6 m (3450')-94% lt brown f xyn dolostone w/ 5% interxyn porosity, 5% white aphanoxyn/ very f xyn gypsum, 1% quartz gns some of which are rd, tr sparite.
1054.6 m (3460')-5% white aphanoxyn/very f xyn gypsum, 94% f xyn dolostone w/ 5% interxyn porosity, 1% quartz, tr bitumen.
1057.7 m (3470')-aa.
1060.7 m (3480')-97% f xyn dolostone w/ 5% interxyn porosity, 3% white aphano- to very f xyn gypsum, tr selenite and quartz gns.
1063.8 m (3490')-95% lt brown f xyn dolostone w/ 5% porosity, 5% white gypsum aa, tr pyrite, tr black silty shale.
1066.8 m (3500')-91% f xyn dolostone w/ 5% porosity, 8% white gypsum aa, 1% selenite, tr black shale.
1069.8 m (3510')-95% buff to lt brown f xyn dolostone w/ 10% porosity, 5% white aphano to f xyn gypsum, tr black shale, tr minor dolostone w/ gypsum lining fractures.
1072.9 m (3520')-aa but dolostone is f to m xyn and is vlt brown.
1075.9 m (3530')-as for 1072.9 m (3520').
1079.0 m (3540')-95% vlt brown f to m xyn dolostone w/ 5% porosity/spar cement, 5% white aphano to very f xyn gypsum.
1082.0 m (3550') and 1085.1 m (3560')-aa.
1088.1 m (3570')-100% buff f to m xyn dolostone w/ 10% porosity, contains low-amplitude stylolites, tr buff chert, spar and black shale.
1091.2 m (3580')-15% waxy lt green shale, 2% lt brown shale, tr quartz, 81% vlt brown f xyn dolostone w/ 5% porosity, 2% white aphano/very f xyn gypsum.
1094.2 m (3590')-94% lt brown f xyn dolostone w/ 5% porosity, 3% green shale, 3% white gypsum aa.
1097.3 m (3600')-95% vlt brown f xyn dolostone w/ 5% porosity, 5% white gypsum, tr bitumen and green shale.
1100.3 m (3610')-98% vlt brown f xyn dolostone w/ 5% porosity, 2% white gypsum, tr black shale, tr selenite, tr quartz.
1103.4 m (3620')-95% vlt brown very f to f xyn dolostone w/ 10% porosity, 5% white gypsum, tr green shale and quartz gns.
1106.4 m (3630') & 1109.5 m (3640')-aa.
1112.5 m (3650')-aa w/ tr selenite.
1115.6 m (3660')-97% vlt brown f xyn dolostone w/ 5% interxyn porosity, 3% white gypsum.
1118.6 m (3670')-10% dolomitic microsparite, 87% vlt brown f xyn dolostone w/ 5% porosity, 3% white gypsum, tr black shale.
1121.7 m (3680')-95% lt brown f xyn dolostone w/ 10% porosity, 5% white gypsum.
1124.7 m (3690')-99% brownish grey f xyn dolostone w/ 10% interxyn porosity, 1% white gypsum, tr interxyn bitumen.
1127.8 m (3700')-99% sl brownish grey f xyn dolostone w/ 5% porosity and 2% interxyn bitumen, 1% white gypsum.
1130.8 m (3710') & 1133.9 m (3720')-aa
1136.9 m (3730')-no returns.
1140.0 m (3740')-as for 1127.8 m (3700').

UNIT A (1142-1265 m, 3747-4150')

1143.0 m (3750')-aa.
1146.0 m (3760')-85% sparry (f xyn) f xyn dolostone w/ 5% interxyn porosity, 15% f xyn spar.
1149.1 m (3770')-99% wk brownish-grey sparry (f xyn) dolostone w/ 10% porosity, 1% white gypsum.

1152.1 m (3780')-aa but 2% gypsum, tr quartz.
1155.2 m (3790')-aa.
1158.2 m (3800')-95% lt brownish grey very f to f xyn dolostone and sparry very f to f xyn dolostone w/ 5% interxyn porosity, 5% white microspar, tr quartz, tr interxyn bitumen.
1161.3 m (3810')-90% lt to m brownish grey variously calc f xyn dolostone w/ 5% porosity, 10% microsparite.
1164.3 m (3820')-90% sparry f to m xyn dolostone w/ 10% interxyn porosity, 10% microsparite.
1167.4 m (3830')-aa w/ tr chert.
1170.4 m (3840')-as for 1164.3 m (3820').
1173.5 m (3850')-80% wk brownish grey sparry f xyn dolostone w/ 5% interxyn porosity, 20% white microsparite/f xyn sparite.
1176.5 m (3860')-70% lt brown very f to f xyn sparry dolostone and dolostone, 30% vlt grey micritic microsparite, tr quartz.
1179.6 m (3870')-aa but 20% very f to f xyn dolostone, 30% sparry dolostone, 50% micritic microsparite.
1182.6 m (3880')-as for 1179.6 m (3870'), low-amplitude stylolites in ls.
1185.7 m (3890')-aa w/ tr quartz.
1188.7 m (3900')-30% lt brownish grey soft microsparite, 70% very f to f xyn sparry dolostone w/ tr ossicles and ostracods, minor bitumen and pyrite, low-amplitude stylolites.
1191.8 m (3910')-aa.
1194.8 m (3920')-aa w/ tr quartz and no ostracods.
1197.9 m (3930')-aa.
1200.9 m (3940')-aa w/ tr gypsum and very f to f gn well-cemented sandstone, tr gns of very f xyn granite.
1204.0 m (3950')-60% lt brown very f to f xyn variously calc dolostone, tr ossicles and low-amplitude stylolites, 40% sl brownish vlt grey microsparite, tr white gypsum.
1207.0 m (3960')-49% dolostone aa, 49% soft microsparite aa, tr ossicles, 1% white gypsum, 1% very f gn quartz arenite (silica-cemented), tr green shale, tr black chert.
1210.1 m (3970')-50% dolostone and 50% microsparite aa.
1213.1 m (3980')-30% lt buff dolomitic f xyn sparite, 68% dolostone and sparry dolostone, tr ossicles, tr bitumen, minor low-amplitude stylolites, 2% white gypsum.
1216.2 m (3990')-50/50 dolostone and microsparite aa, tr ossicles in dolostone, microsparite is moderately indurated and dolostone is well indurated.
1219.2 m (4000')-50% lt buff soft microsparite, 50% m grey very f to f xyn dolostone and sparry dolostone w/ tr ossicles.
1222.2 m (4010')-60% dolostone aa, 40% microsparite aa.
1225.3 m (4020')-aa w/ tr siltstone and gypsum, 1% ossicles.
1228.3 m (4030')-60% ls aa, 40% dk and sparry dolostone aa, tr ossicles, dolostone w/ gypsum lining fractures.
1231.4 m (4040'), 1234.4 m (4050')-aa.
1237.5 m (4060')-aa w/ 1% dk brown bitumenous dolostone.
1240.5 m (4070')-80% buff to lt brownish grey very f to f xyn ls (well indurated), 1% ossicles, tr pyrite, 19% dolostone.
1243.6 m (4080')-79% lt buff soft microsparite/f xyn sparite, 20% brown f xyn dolostone and sparry dolostone, 1% ossicles.
1246.6 m (4090')-aa w/ tr gypsum and quartz.
1249.7 m (4100')-70% ls aa, 30% dolostone aa.
1252.7 m (4110')-aa, buff dolostone is in part dk brown and contains tr pyrite.
1255.8 m (4120')-60% soft vlt grey ls aa, 40% brownish dk grey very f to f xyn dolostone, tr ossicles, tr gypsum, tr low-amplitude stylolites.
1258.8 m (4130')-aa.
1261.9 m (4140')-25% greenish grey silty/argil dolostone, 55% microsparite/f xyn sparite aa, 20% very f to f xyn dolostone aa, tr ossicles.

IRENE BAY FORMATION (1265-1286 m, 4150-4219')

1264.9 m (4150')-aa.
1268.0 m (4160')-aa, tr ossicles, tr pyrite, tr low-amplitude stylolites.
1271.0 m (4170') & 1274.1 m (4180')-aa.
1277.2 m (4190')-50% lt brownish grey very f to f xyn dolostone and sparry dolostone, 50% soft vlt grey argil/silty microsparite/f xyn sparite, tr pyrite.
1280.2 m (4200')-aa, tr ossicles.
1283.2 m (4210')-70% lt greenish grey sparry mudstone, 30% vlt grey argil microsparite.

THUMB MOUNTAIN FORMATION (1286-1399 m, 4219-4590')

1286.3 m (4220')-80% sparry mudstone aa, 20% argil microsparite aa.
1289.3 m (4230')-25% lt greenish grey sparry mudstone, 75% sparry dolostone aa, tr brachs, tr pyrite.
1292.4 m (4240')-10% lt greenish grey sparry mudstone, 90% very f to f xyn sparite and sparry dolostone, tr ossicles, tr ostracods, tr pyrite.
1295.4 m (4250')-45% sparry dolostone, 50% very f to f xyn sparite, tr ossicles, tr f costate brachs(?), 5% lt greenish grey sparry mudstone aa.
1298.4 m (4260')-60% very f to f xyn sparite, 5% lt greenish-grey sparry mudstone aa, tr ossicles, 35% very f to f xyn lt brownish grey dolostone, tr ossicles, tr f costate brachs, tr pyrite and bitumen.
1301.5 m (4270')-18% lt brownish grey very f xyn sparry dolostone, 80% vlt grey microsparite, 2% vlt green mudstone aa.
1304.5 m (4280')-60% soft microsparite/f xyn sparite aa, 38% dolostone and sparry dolostone aa, 2% lt greenish grey sparry mudstone, tr ossicles.
1307.6 m (4290')-95% microsparite/f xyn sparite, 1% ossicles, 4% lt greenish grey mudstone, tr ostracods.
1310.6 m (4300')-100% microsparite, scattered low-amplitude stylolites, tr ossicles, tr ostracods.
1313.7 m (4310')-95% microsparite/f xyn sparite, 1% ossicles, 5% lt greenish grey sparry mudstone, tr f costate brachs.
1316.7 m (4320')-99% soft lt grey microsparite/f xyn sparite, 1% lt greenish grey sparry mudstone aa.
1319.8 m (4330')-20% f xyn lt brown sparry dolostone, 80% soft vlt grey microsparite, tr f costate (w/ f growth lines) brachs(?), tr ossicles.
1322.8 m (4340')-100% lt grey to lt brown microsparite aa w/ tr ostracods, tr ossicles, tr costate brachs 1 mm in size, minor low-amplitude stylolites, tr quartz.
1325.9 m (4350')-10% lt brown f xyn sparry dolostone, 90% lt grey microsparite/f xyn sparite, tr ossicles.
1328.9 m (4360')-91% vlt grey to lt brown microsparite, 5% very f to f xyn brown dolostone, 3% lt greenish grey mudstone aa, tr f costate brachs, 1% ossicles, tr brown shale.
1332.0 m (4370')-90% microsparite aa, 8% sparry dolostone aa, 2% lt greenish grey mudstone aa, 1% ossicles, tr quartz, tr gypsum.
1335.0 m (4380')-90% microsparite aa, 10% dolostone aa, 1% ossicles, one 1.5 mm long smooth-shelled ostracod, tr lt green mudstone aa.
1338.1 m (4390')-100% soft vlt grey to lt brown microsparite aa, tr f costate brachiopods, tr m grey silty shale, tr ossicles, tr quartz.
1341.1 m (4400')-90% microsparite aa, 10% dolostone and sparry dolostone aa, tr ossicles, tr f costate brachs.
1344.2 m (4410')-100% microsparite aa w/ minor sparry dolostone stringers, tr ossicles, tr lt greenish grey mudstone aa, tr ostracods.
1347.2 m (4420')-aa w/ tr f costate brachs, 1% ossicles.
1350.3 m (4430')-100% microsparite aa, tr ostracods and ossicles.
1353.3 m (4440')-90% vlt grey (soft) brownish grey microsparite aa, 10% f xyn sparry dolostone and dolostone, 2% ossicles, tr quartz.

1356.4 m (4450')-aa w/ tr pyrite.

1359.4 m (4460')-aa w/ low-amplitude stylolites and dolomitic stringers in microsparite, 1% ossicles, tr rd quartz gns.

1362.5 m (4470')-90% microsparite aa, 10% sparry dolostone aa, minor low-amplitude stylolites, tr green mudstone aa, minor f xyn dolostone stringers, tr ossicles.

1365.5 m (4480')-aa w/ 2% dk brown shale,

1368.6 m (4490')-90% lt grey soft argil microsparite aa, 5% sparry f xyn dolostone, 5% dk brown argil f xyn sparite, minor low-amplitude stylolites, tr f costate brachs.

1371.6 m (4500')-aa w/ tr quartz gns and ossicles, tr pyrite, tr silty (quartzose) microsparite.

1374.6 m (4510')-as for 1368.6 m (4490').

1377.7 m (4520')-20% brownish grey argil f xyn sparite, 10% brownish dk grey mudstone, 10% sparry f xyn dolostone, 60% soft lt grey to brown argil microsparite, tr siltstone, tr ossicles.

1380.7 m (4530')-aa.

1383.8 m (4540')-aa w/ tr bitumen.

1386.8 m (4550')-90% vlt grey to brown microsparite, 10% f to m xyn sparry dolostone, tr ossicles.

1389.9 m (4560')-5% dk grey siltstone, 90% lt grey to lt brown microsparite containing tr smooth ostracods (0.5 mm in size), 5% dolomitic (m xyn) f xyn sparite, tr green shale, tr quartz, tr pyrite.

1392.9 m (4570')-10% dolomitic (f xyn) microsparite, 15% sparry m xyn dolostone, 5% dk grey siltstone, 70% lt brownish grey microsparite w/ dolomitic stringers.

1396.0 m (4580')-60% sparry f xyn dolostone, 37% soft lt grey to brown microsparite, tr bitumen, 3% dk grey siltstone, tr ossicles, tr shale, tr quartz gns.

BAY FIORD FORMATION (1399-1596 m, 4590-5236')

1399.0 m (4590) & 1402.1 m (4600')-aa.

1405.1 m (4610')-10% microsparite, 82% m xyn dolostone, 5% dk grey siltstone, 3% lt greenish grey shale, tr gypsum, tr selenite, tr quartz.

1408.2 m (4620')-10% dk grey silty shale, sparry f xyn dolostone, 20% lt grey microsparite, 5% dk grey siltstone and lt greenish grey shale, 65% sparry f xyn dolostone.

1411.2 m (4630')-15% black shale, 10% lt grey microsparite, 75% white to brown f xyn dolostone, tr pyrite.

1414.3 m (4640')-20% lt grey to brown microsparite, 80% sl greenish grey dolomitic shale, tr selenite, tr pyrite.

1417.3 m (4650')-aa.

1420.4 m (4660')-10% lt grey to brown microsparite, 30% dk grey to sl greenish grey shale and siltstone, 59% very f xyn dolostone, 1% white gypsum.

1423.4 m (4670')-90% grey silty (quartzose) argil very f xyn dolostone, 5% lt grey microsparite, 5% lt brown very f to f xyn dolostone.

1426.5 m (4680')-95% grey silty (quartzose) argil dolostone aa, 5% lt brown very f to f xyn dolostone, tr pyrite, tr quartz, tr lt brown dolomitic anhydrite.

1429.5 m (4690')-80% grey silty (quartzose) argil dolostone, 20% lt brown very f to f xyn dolostone.

1432.6 m (4700')-2% lt brown anhydrite, 8% white anhydrite, 85% lt greenish grey dolomitic claystone, 5% lt brown very f to f xyn dolostone.

1435.6 m (4710')-40% white to lt brown anhydrite, 60% dolomitic claystone aa.

1438.7 m (4720')-30% white to lt brown anhydrite aa, 70% lt greenish grey to grey dolomitic claystone aa.

1441.7 m (4730')-aa w/ 1% vlt grey microsparite.

1444.8 m (4740')-20% sl greenish grey dolomitic mudstone, 1% white gypsum, tr selenite, 78% lt brown f xyn dolostone, 1% microsparite.

1447.8 m (4750')-60% lt brown f xyn dolostone, 40% greenish grey dolomitic mudstone, tr anhydrite, tr pyrite, tr quartz.

1450.9 m (4760')-90% lt brown f xyn dolostone, 10% dk brown shale.

1453.9 m (4770')-60% lt brown f xyn dolostone, 40% grey to dk grey argil/silty dolostone.
1456.9 m (4780')-50% lt brown dolostone aa, 49% argil dolostone, 1% microsparite, tr gypsum, tr pyrite.
1460.0 m (4790')-3% microsparite, 35% dk grey mudstone aa, 62% very f to f xyn dolostone, tr gypsum, tr pyrite.
1463.0 m (4800')-90% lt greenish grey argil dolostone, 10% lt brown very f to f xyn dolostone, tr gypsum and anhydrite.
1466.0 m (4810')-89% lt greenish grey argil dolostone, 10% dolostone aa, 1% white gypsum.
1469.1 m (4820')-90% sl greenish grey argil very f xyn dolostone, 5% dk grey shale, 5% dolostone aa.
1472.2 m (4830')-aa w/ tr pyrite & 2% white f xyn anhydrite.
1475.2 m (4840')-70% lt greenish grey argil very f xyn dolostone, 25% lt brown very f to f xyn dolostone, 2% anhydrite, 3% gypsum.
1478.3 m (4850')-45% lt greenish grey argil very f xyn dolostone, 50% lt brown very f xyn dolostone, 3% white gypsum, 2% white f xyn anhydrite.
1481.3 m (4860')-45% lt greenish grey argil dolostone, 45% lt brown very f to f xyn dolostone, 5% brownish dk grey carb very f xyn dolostone, 3% white f xyn anhydrite, 2% white gypsum.
1484.4 m (4870')-aa.
1487.4 m (4880')-2% anhydrite, 50% lt greenish grey argil dolostone, 48% very f to f xyn dolostone, tr white gypsum.
1490.5 m (4890') to 1502.7 m (4930')-aa.
1505.7 m (4940')-aa w/ tr selenite.
1508.8 m (4950')-aa, tr quartz, tr ossicles.
1511.8 m (4960')-70% lt grey dolostone aa, 30% very f to f xyn dolostone, tr anhydrite and dolomitic anhydrite.
1514.9 m (4970')-5% white anhydrite, 35% lt brown anhydritic very f to f xyn dolostone, 60% lt greenish grey argil very f xyn dolostone.
1517.9 m (4980')-10% brownish dk grey anhydritic very f xyn dolostone, 5% white f xyn anhydrite, 60% lt greenish grey argil very f xyn dolostone, 25% lt brown anhydritic very f xyn dolostone, tr microsparite.
1521.0 m (4990')-aa w/ tr white gypsum and 2% anhydrite.
1524.0 m (5000')-15% white f xyn anhydrite, 10% lt brown anhydrite, 65% lt brown very f xyn variously anhydritic argil dolostone, 10% dk brown dolostone, tr selenite, white translucent gypsum, microsparite.
1527.1 m (5010') & 1530.1 m (5020')-aa.
1533.1 m (5030')-2% soft vlt grey microsparite, 48% lt greenish grey argil very f xyn dolostone, 49% lt brown very f xyn dolostone, 1% white anhydrite.
1536.2 m (5040')-aa w/ tr pyrite.
1539.2 m (5050')-15% white to lt brown very f to f xyn anhydrite, 85% argil very f xyn dolostone.
1542.3 m (5060')-3% white f xyn anhydrite, 5% white microsparite, 92% lt brownish to greenish grey very f xyn argil dolostone.
1545.3 m (5070')-aa.
1548.4 m (5080')-10% white to lt brown anhydrite, 90% lt greenish grey argil to lt brown very f to f xyn dolostone.
1551.4 m (5090')-aa.
1554.5 m (5100')-aa w/ tr gypsum.
1557.5 m (5110')-aa.
1560.6 m (5120')-tr clear anhydrite xtals to 1 mm in size, 15% white to lt brown anhydrite, 85% lt brown to lt greenish grey argil very f to f xyn dolostone.
1563.6 m (5130')-aa w/ 3% white microsparite.
1566.7 m (5140')-5% anhydrite, 3% white microsparite, 92% lt brown to lt greenish grey argil very f to f xyn dolostone.
1569.7 m (5150')-30% white to lt brown anhydrite, 70% lt brown to lt green argil very f to f xyn dolostone, tr clear anhydrite xtals to 1 mm in size.

1572.8 m (5160')-40% anhydrite, 60% dolostone aa.
1575.8 m (5170')-80% anhydrite aa, 20% dolostone aa.
1578.9 m (5180')-aa.
1581.9 m (5190')-15% white to lt brown anhydrite, 85% lt greenish grey to lt brown argil very f xyn dolostone.
1585.0 m (5200')-20% anhydrite aa, 80% dolostone aa.
1588.0 m (5210') to 1594.1 m (5230)-aa.

ELEANOR RIVER FORMATION (1596-1659 m, 5236-5443')

1597.2 m (5240')-25% f xyn dolostone, 50% varicoloured very f to f xyn anhydrite, 25% dolostone aa.
1600.2 m (5250')-70% white to lt brown anhydrite, 30% lt brown very f to f xyn dolostone aa.
1603.3 m (5260')-20% anhydrite, 10% anhydritic very f to f xyn dolostone w/ minor interxyn bitumen, 25% sparry f xyn dolostone, 45% varicoloured very f to f xyn dolostone.

The interval from 1606 m (5270') to 1986 m (6515') (total depth) was not described.

XVI. APPENDIX 4, CONODONT DATA FOR THE BRODEUR GROUP

Composite Conodont Sample	Wt. (kg)	Recovery	Compound Conodonts
A1,1a,2,6,7,9	1.4	Yes	No
A2,3,4,5,6	1.2	No	No
A11a,b,19,32	1.0	Yes	No
A12,12a	1.1	Yes	Yes
A20a,24,28,31,34,35	1.5	Yes	Yes
A32a,b,34,35	1.9	Yes	Yes
A33a	3.7	No	No
A36,38,39,40	1.7	Yes	Yes
A41,42a,47,50b,52b	1.7	Yes	No
A42	2.2	No	No
A43,44,45	1.5	Yes	Yes
A48,49,51	2.0	Yes	Yes
A54,55,58,59	1.6	Yes	Yes
A59	1.9	No	No
A62a,63,64a,b	2.2	No	No
A65,65a,66,69,70,71	2.0	Yes	No
A70,73,74	1.9	No	No
A77,79,80	1.3	Yes	Yes
A81	1.9	Yes	No
A81,84,85	1.1	Yes	No
A88,89,90,95	1.9	No	No
A92	1.7	Yes	No
A97	1.6	Yes	Yes
A98,100d	1.3	No	No
B1,1a,3,9,10,11	2.0	Yes	Yes
B15,18,19,20,21,22	2.3	Yes	Yes
B19,20	1.4	No	No
C1,11,12,13	2.2	Yes	Yes
C7,8	0.6	No	No
C14,15,16,16a,17,17a	1.7	Yes	Yes
C18c,d,19,19a	1.6	Yes	Yes
C21,22,23,24,24a	2.0	No	No
C22,23	1.6	Yes	Yes
C25,26	1.8	Yes	No
C27	2.3	No	No
C28,29	2.2	No	No
C30a,c,31	2.1	No	No
C31a,b,e	2.3	Yes	No
C32a,33,33a,b,c,34	2.8	Yes	Yes
C36,37,38,39	1.5	No	No
C40	1.8	No	No
C45,46,46a,b,50	2.0	No	No
C51,55,56,64,66	2.0	Yes	Yes
C55,57,59	1.5	Yes	Yes
C69,70	0.5	Yes	Yes
D1c,D4	1.5	Yes	Yes
D8,13,18,18a,19,21	1.0	Yes	Yes
DX13	4.0	Yes	No
D24,26,27	1.7	Yes	No

D28,29,31	1.5	No	No
D33,34,35,36,38	2.0	Yes	Yes
DX9	4.3	Yes	Yes
E1,2,4,5,5a	1.7	Yes	Yes
E6,7,8	2.0	Yes	Yes
E8a	4.2	Yes	Yes
E10,12,12a,15	2.2	Yes	Yes
E18,20,21,22	1.7	Yes	Yes
E23,24,25,27	1.6	Yes	Yes
E27a	5.2	Yes	Yes
E30a	3.6	Yes	Yes
E32,33,39b	1.8	Yes	Yes
E33a	4.2	Yes	Yes
E42d,45,47	1.5	Yes	Yes
E47c	4.2	Yes	Yes
E53,54,56,57	1.5	Yes	Yes
E59,61,63,71,73,74,75	0.9	Yes	Yes
E63,68,71	1.0	Yes	Yes
E70	4.7	No	No
E77,78,81,83,85	2.0	Yes	Yes
E78a	3.8	Yes	Yes
E78,81,85	1.5	Yes	Yes
G5,23,35,36	1.2	Yes	Yes
G30	4.0	Yes	Yes
G39d,40,42,43	2.1	Yes	Yes
G45,47	1.9	Yes	Yes
H1,5,22	1.1	No	No
H5,8,11	2.3	No	No
H5a	4.5	No	No
H15,16,18,21,22	2.1	Yes	Yes
H25,25a,26,27	1.6	Yes	Yes
H26,47,50,58,73,78	1.5	No	No
H32,34,41,42,45	1.3	No	No
H45,47,50	1.4	No	No
H45a	4.5	Yes	Yes
H48,50,51,55,58,60	1.5	No	No
H51,55	1.2	Yes	Yes
H62,66,69,72	1.8	Yes	Yes
I2f	1.0	Yes	No
I7,J2,2a,5a	1.9	Yes	Yes
J5	3.00	Yes	Yes
J7,12,21,24,28	1.5	Yes	Yes
J19	4.4	Yes	Yes
J29,33,33a,34,42,45	2.2	Yes	No
J35	4.4	No	No
J46,48,50,52	1.7	Yes	Yes
J53,55,56,58	1.5	Yes	No
J67,70b,71,72,74	2.5	Yes	No
J70	4.8	Yes	No
K2,4,5	1.9	Yes	Yes
L2,2c,3	2.3	Yes	Yes
L2a	3.6	Yes	Yes
L3a	4.1	Yes	Yes
L5,5b,d	1.5	Yes	No
L5c	3.3	Yes	No
L5e,f,g,L7	1.8	Yes	Yes

L7a	3.7	Yes	Yes
L7f,g	2.5	Yes	No?
L7i,j,L7L,n	1.7	Yes	No
L7o	3.6	Yes	Yes
L7p	4.5	No	No
L10b	3.9	No	No
L10f	3.8	Yes	No
L12a	4.1	No	No
L14	4.3	No	No
M1,1a,MX5,6	1.9	Yes	No
MX8	3.6	No	No
MX8a,11a,14,15,15a,16,17	4.0	Yes	Yes
MX14	4.3	Yes	No
MX15	4.5	Yes	No
MX17a	4.2	Yes	No
N2,3,4,4a,5	1.5	Yes	Yes
N2a	3.2	Yes	Yes
N5a	3.8	No	No
N10	3.6	Yes	Yes
N10a,b,11,14	2.1	Yes	Yes
N17,21	1.8	Yes	Yes
Q5	3.9	No	No
Q5a,6,7,7/8,8a	1.5	Yes	No
Q10,10b,14b,15,17	1.9	Yes	No
Q14a	1.9	No	No
R3a	4.2	Yes	Yes
R8a	3.9	Yes	Yes
R14a	4.2	Yes	Yes
R18b	3.8	Yes	Yes
SP1	7.0	Yes	No
Th1	7.8	Yes	Yes

XVII. APPENDIX 5, CONODONTS IDENTIFIED BY G.S. NOWLAN, GEOLOGICAL SURVEY OF CANADA, ADAPTED FROM GSC REPORT NO. 009-GSN-1986

Note: Conodonts were processed by F. Nentwich in B.D.E. Chatterton's lab at the University of Alberta.

1. Locality: GSC loc. 101712; field sample no. M1,1a, MX5,6 (1.9 kg dissolved); Ship Point Formation, sampled through uppermost 37 m (samples M1 and M1a were taken at sealevel in section M, samples MX5 and 6 were taken 8.1 and 8.8 m respectively asl in section MX); Brodeur Peninsula, Baffin Island, west side of Admiralty Inlet; latitude 73°31'40"N, longitude 85°26'30"W.

   The sample yielded 54 moderately well preserved specimens (CAI 1) assignable to:
   Drepanoistodus sp. (6 specimens)
   Eucharodus parallelus (Branson & Mehl) (20 specimens)
   Glyptoconus quadraplicatus (Branson & Mehl) (16 specimens)
   Oneotodus costatus Ethington & Brand (4 specimens)
   Paltodus bassleri Group sensu Nowlan (1985) (3 specimens)
   "*Scolopodus*" *emarginatus* Barnes & Tuke (1 specimen)
   "*S.*" *gracilis* Ethington & Clark (1 specimen)
   Ulrichodina abnormalis (Branson & Mehl) (1 specimen)
   distacodontiform element indet. (1 specimen)
   rastrate element indet. (1 specimen)

   Remarks: This assemblage includes elements of both Fauna C and Fauna D of Ethington and Clark (1971) and presumably the interval sampled includes the transition. The sample ranges in age from early to mid-Canadian (Early Ordovician).

2. Locality: GSC loc. 101713; field sample no. MX8a,11a,14,15,15a,16,17 (4.0 kg dissolved); Baillarge Formation, member A, about 80.0-85.0 m above base (90.0-94.7 m asl in section MX); Brodeur Peninsula, Baffin Island, west side of Admiralty Inlet; section MX; latitude 73°31'55"N, longitude 85°26'00"W. The sample yielded 49 fragmentary to moderately well preserved specimens (CAI 1) assignable to:
   Diaphorodus sp. (11 specimens)
   Drepanoistodus? gracilis (Branson & Mehl) (4 specimens)
   Eucharodus parallelus (Branson & Mehl) (11 specimens)
   Oepikodus communis Ethington & Clark (8 specimens)
   "*Scolopodus*" *emarginatus* Barnes & Tuke (2 specimens)
   "*Scolopodus*" *gracilis* Ethington & Clark (8 specimens)
   paltodontiform elements (5 specimens)

   Remarks: This assemblage represents Fauna E of Ethington and Clark (1971); the sample is of late Canadian (Early Ordovician) age, but may encompass older strata bearing Fauna D.

3. Locality: GSC loc. 101714; field sample no. MX8 (3.6 kg dissolved); locality as for 101713, but 78.5-80.8 m above base of Baillarge Formation, member A (88.5-90.8 m asl in section MX).

   The sample yielded 47 moderately well preserved specimens (CAI 1) assignable to:
   Diaphorodus delicatus (Branson & Mehl) (46 specimens)
   Drepanoistodus sp. (1 specimen)

   Remarks: This assemblage could be from either Fauna D or Fauna E; the sample is of mid to late Canadian (Early Ordovician) age.

4. Locality: GSC loc 101715; field sample no. MX14 (4.3 kg dissolved); locality as for GSC 101713, but 82.0 m above base of Baillarge Formation, member A (92.0 m asl in section MX). The sample yielded 31 moderately well preserved specimens (CAI 1) assignable to:

   Diaphorodus delicatus (Branson & Mehl) (18 specimens)
   Drepanoistodus sp. (2 specimens)
   Eucharodus parallelus (Branson & Mehl) (9 specimens)
   Glyptoconus quadraplicatus (Branson & Mehl) (1 specimen)
   paltodontiform element (1 specimen)

   Remarks: This assemblage could represent Fauna D or Fauna E; the sample is of mid to late Canadian (Early Ordovician) age.

5. Locality: GSC loc. 101716; field sample no. MX15 (4.5 kg dissolved); locality as for GSC 101713 but 82.5-83.1 m above the base of the Baillarge Formation, member A (92.6-93.1 m asl). The sample yielded 17 moderately well preserved specimens (CAI 1) assignable to:
   Diaphorodus akpatokensis? (Barnes) (8 specimens)
   D. delicatus (Branson & Mehl) (9 specimens)

   Remarks: This assemblage could be from Fauna D or Fauna E; the sample is of mid to late Canadian (Early Ordovician) age.

6. Locality: GSC loc. 101717; field sample no. MX17a (4.2 kg); locality as for GSC 101713 but 83.7-87.0 m above the base of the Baillarge Formation, member A (93.7-97.0 m asl).

   The sample yielded 39 moderately well preserved specimens (CAI 1) assignable to:
   Diaphorodus akpatokensis (Barnes) (9 specimens)
   Drepanoistodus? gracilis (Branson & Mehl) (21 specimens)
   Eucharodus parallelus (9 specimens)

   Remarks: This assemblage could be from Fauna D or Fauna E; the sample is of mid to late Canadian (Early Ordovician) age.

7. Locality: GSC loc. 101718; field sample no. N2a (3.2 kg dissolved); Baillarge Formation, member A, approximately 55.0-58.0 m above base (1.5-4.3 m asl in section N); Brodeur Peninsula, Baffin Island, west side of Admiralty Inlet; section N; latitude 73°32'00"N, longitude 85°25'30"W.

   The sample yielded 50 moderately well preserved specimens (CAI 1) assignable to:
   Cristodus? sp. (1 specimen)
   Diaphorodus delicatus (Branson & Mehl) (23 specimens)
   Drepanoistodus? gracilis (Branson & Mehl) (5 specimens)
   Eucharodus parallelus (Branson & Mehl) (13 specimens)
   "*Scolopodus*" *emarginatus* Barnes & Tuke (2 specimens)
   Ulrichodina abnormalis (Branson & Mehl) (2 specimens)
   acontidontiform element indet. (1 specimen)
   paltodontiform element indet. (3 specimens)

   Remarks: This assemblage is indicative of Fauna D; the sample is of mid Canadian (Early Ordovician) age.

8. Locality: GSC loc. 101719 (2.1 kg dissolved); field sample no. N10a,b,11,14; locality as for GSC 101718 but about 80-85 m above the base of member A of the Baillarge Formation (26.7-30.3 m asl in section N).

The sample yielded 31 moderately well preserved specimens (CAI 1) assignable to:
Diaphorodus akpatokensis (Barnes) (10 specimens)
D. delicatus (Branson & Mehl) (8 specimens)
Drepanoistodus? gracilis (Branson & Mehl) (6 specimens)
Eucharodus parallelus (Branson & Mehl) (2 specimens)
Oepikodus sp. (1 specimen)
Oistodus cf. *O. multicorrugatus* Mound (4 specimens).

Remarks: This assemblage is representative of Fauna E; the sample is of late Canadian (Early Ordovician) age.

9. Locality: GSC loc. 101720; field sample no. N17,21 (1.8 kg dissolved); locality as for GSC 101718 but about 99-108 m above the base of the Baillarge Formation, member A (47.0-54.2 m asl).

The sample yielded 30 moderately well preserved specimens (CAI 1) assignable to:
Drepanoistodus sp. (5 specimens)
Eucharodus aff. *E. parallelus* (Branson & Mehl) (3 specimens)
Jumudontus gananda Cooper (1 specimen)
Oistodus multicorrugatus Mound (2 specimens)
O. scalenocarinatus Mound (1 specimen)
O. n.sp. (2 specimens)
Protoprioniodus aranda Cooper (7 specimens)
"*Scolopodus*" *emarginatus* Barnes & Tuke (1 specimen)
"*S.*" *gracilis* Ethington & Clark (8 specimens)

Remarks: This assemblage represents Fauna E/ Fauna 1; the sample is of late Canadian to earliest Whiterockian (late Early-early Middle Ordovician) age.

10. Locality: GSC loc. 101721; field sample no. L2a (3.6 kg dissolved); Baillarge Formation, member B, 0-3.25 m above base (3.0-18.3 m asl in section L); Brodeur Peninsula, Baffin Island, west side of Admiralty Inlet; section L; latitude 73°33'00"N, longitude 85°22'00"W.

The sample yielded 43 moderately well preserved specimens (CAI 1) assignable to:
Culumbodina penna Sweet (1 specimen)
Drepanoistodus suberectus (Branson & Mehl) (5 specimens)
?Oulodus ulrichi (Stone & Furnish) (3 specimens)
Panderodus breviusculpus Barnes (1 specimen)
P. gracilis (Branson & Mehl) (21 specimens)
P. n.sp. (2 specimens)
Plectodina sp. (4 specimens)
Pseudobelodina? dispansa (Glenister) (2 specimens)
P. kirki (Stone and Furnish) (3 specimens)
belodiniform element indet. (1 specimen)

Remarks: The sample is of Edenian-mid Maysvillian (Late Ordovician) age. *P. breviusculus* is not known to range above the mid Maysvillian. Other taxa present range into Richmondian strata, some even into Gamachian strata.

11. Locality: GSC loc. 101722; field sample no. L5e,f,g,L7 (1.8 kg dissolved); locality as for GSC 101721 but about 57.0-74.5 m above base of member B, Baillarge Formation (60.0-77.5 m asl in section L).

The sample yielded 32 well preserved specimens (CAI 1) assignable to:
Belodina sp. (1 specimen)
Panderodus gibber Nowlan & Barnes (1 specimen)

P. gracilis (Branson & Mehl) (29 specimens)
Pseudooneotodus beckmanni (Bischoff & Sannemann) (1 specimen)

Remarks: This fauna is not biostratigraphically diagnostic in the context of this report; the sample could be of Middle to Late Ordovician age, but based on the sample below (GSC 101721), it must be of Late Ordovician age. Three specimens of *Panderodus gracilis* are in a fused cluster.

12. Locality: GSC loc. 101723; field sample no. L7a (3.7 kg dissolved); locality as for GSC 101721 but about 74.1-96.0 m above base of member B of the Baillarge Formation. (76.1-99.0 m asl in section L).

    The sample yielded 44 well preserved specimens (CAI 1) assignable to:
    Amorphognathus sp. (1 specimen)
    Belodina confluens Sweet (4 specimens)
    Drepanoistodus sp. (3 specimens)
    Panderodus gibber Nowlan & Barnes (1 specimen)
    P. gracilis (Branson & Mehl) (31 specimens)
    P. panderi (Stauffer) (3 specimens)
    Walliserodus sp. (1 specimen)

    Remarks: This assemblage indicates a Late Ordovician age; a more precise biostratigraphic assignment is not possible.

13. Locality: GSC loc. 101724; field sample no. L7o (3.6 kg dissolved); locality as for GSC 101721 but 185.0-189.0 m above base of member B, Baillarge Formation (188.0-192.0 m asl in section L)

    The sample yielded only 9 moderately well preserved specimens (CAI 1) assignable to:
    Oulodus rohneri Ethington & Furnish (1 specimen)
    Panderodus gracilis (Branson & Mehl) (7 specimens)
    P. liratus Nowlan & Barnes (1 specimen)

    Remarks: This assemblage indicates a Richmondian-Gamachian (Late Ordovician) age for the sample.

14. Locality: GSC loc. 101725; field sample no. L10b (3.9 kg dissolved); locality as for GSC 101721, but 220.0-224.3 m above base of member B, Baillarge Formation (223.0-227.3 m asl in section L).

    The sample yielded only nine poorly preserved specimens (CAI 1) assignable to:
    Oulodus? sp. (3 specimens)
    Ozarkodina? sp. (3 specimens)
    Panderodus gracilis (Branson & Mehl) (3 specimens)

    Remarks: The sample is possibly of Silurian age based on the morphology of ramiform elements assigned questionably to *Ozarkodina*. Otherwise the assemblage is undiagnostic and might be of Late Ordovician or Silurian age.

15. Locality: GSC loc. 101726; field sample no. SP1 (7.0 kg dissolved); locality is north shore of Port Bowen (73°13'28"N, 89°17'50"W). The sample was obtained from the uppermost few metres of the lower member of the Cape Crauford Formation (about 150 m asl); however, it may have been mislabelled because the age seems much too old for the Cape Crauford Formation.

    The sample yielded 17 fragmentary specimens (CAI 1) assignable to:

?*Diaphorodus akpatokensis* (Barnes) (7 specimens)
Eucharodus sp. (1 specimen)
Panderodus sp. (6 specimens)
"*Scolopodus*" *emarginatus* Barnes & Tuke (2 specimens)
drepanodontiform element indet. (1 specimen)

Remarks: This assemblage is of mid Canadian (Fauna D) to Whiterockian (Early to early Middle Ordovician age.

Conclusions

The fact that so many of these samples are channel samples of considerable vertical extent detracts from the precision of several of the biostratigraphic conclusions.

Samples from the upper part of the Ship Point Formation (sections M, MX) yield conodonts assignable to Fauna C and Fauna D. The transition between these two faunas presumably occurs within the upper part of the Ship Point Formation.

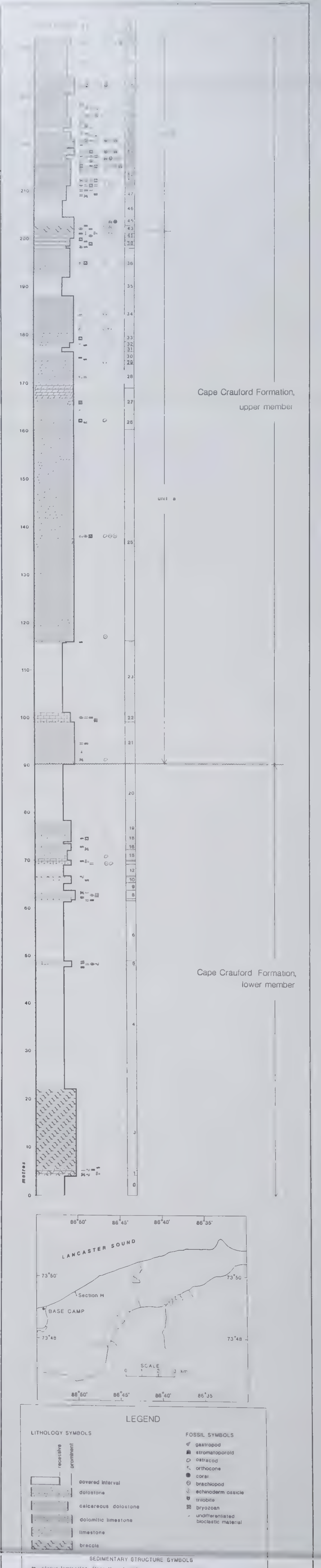
Samples from member A of the Baillarge Formation yield conodonts assignable to Faunas D, E and Fauna 1, indicating a mid Canadian to early Whiterockian age. The Lower-Middle Ordovician boundary is within the upper part of the member.

Samples from member B of the Baillarge Formation yield Upper Ordovician conodonts. The lowest sample (GSC 101721) is of Edenian-mid Maysvillian age; higher samples are of Richmondian-Gamachian age (GSC 101724). The highest sample (GSC 101725) yields conodonts that may be of Silurian age. it is likely that the Ordovician-Silurian boundary is within this member.

It seems likely that there is a Middle Ordovician hiatus, because only about 25 m of strata separates lowest Middle Ordovician beds from lower Upper Ordovician beds.

The conodonts recovered are thermally unaltered, indicating that heat flow in the area has never exceeded 90°C.

Note: the report was prepared by Godfrey S. Nowlan, Ottawa Paleontology Section, Geological Survey of Canada, Ottawa, Ontario, dated 5 June, 1986.


metres
unit a
Cape Crauford Formation, upper member
Cape Crauford Formation, lower member
86°50'
86°45'
86°40'
86°35'
LANCASTER SOUND
73°50'
73°48
Section H
BASE CAMP
SCALE
3 km
LEGEND
LITHOLOGY SYMBOLS
recessive
prominent
covered interval
dolostone
calcareous dolostone
dolomitic limestone
limestone
breccia
FOSSIL SYMBOLS
gastropod
stromatoporoid
ostracod
orthocone
coral
brachiopod
echinoderm ossicle
trilobite
bryozoan
undifferentiated bioclastic material
SEDIMENTARY STRUCTURE SYMBOLS

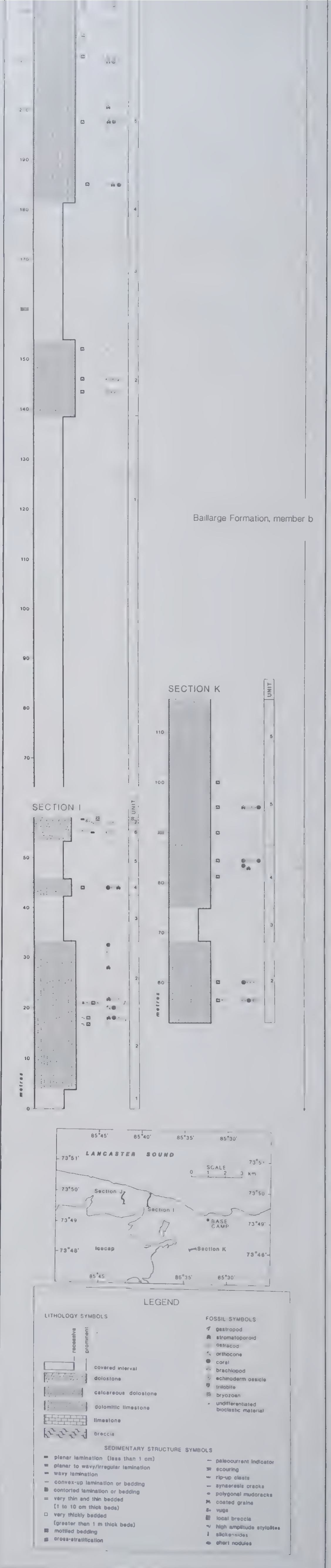

SECTION I
SECTION K
metres
UNIT
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
170
180
190
Baillarge Formation, member b
LANCASTER SOUND
SCALE
0 1 2 3 km
Section J
Section I
BASE CAMP
Section K
Icecap
85°45'
85°40'
85°35'
85°30'
73°51'
73°50'
73°49'
73°48'
LEGEND
LITHOLOGY SYMBOLS
recessive
prominent
covered interval
dolostone
calcareous dolostone
dolomitic limestone
limestone
breccia
FOSSIL SYMBOLS
gastropod
stromatoporoid
ostracod
orthocone
coral
brachiopod
echinoderm ossicle
trilobite
bryozoan
undifferentiated bioclastic material
SEDIMENTARY STRUCTURE SYMBOLS
planar lamination (less than 1 cm)
planar to wavy/irregular lamination
wavy lamination
convex-up lamination or bedding
contorted lamination or bedding
very thin and thin bedded (1 to 10 cm thick beds)
very thickly bedded (greater than 1 m thick beds)
mottled bedding
cross-stratification
paleocurrent indicator
scouring
rip-up clasts
syneresis cracks
polygonal mudcracks
coated grains
vugs
local breccia
high amplitude stylolites
slickensides
chert nodules

Figure [illegible]: Sections J, I & K, Stanley [illegible]

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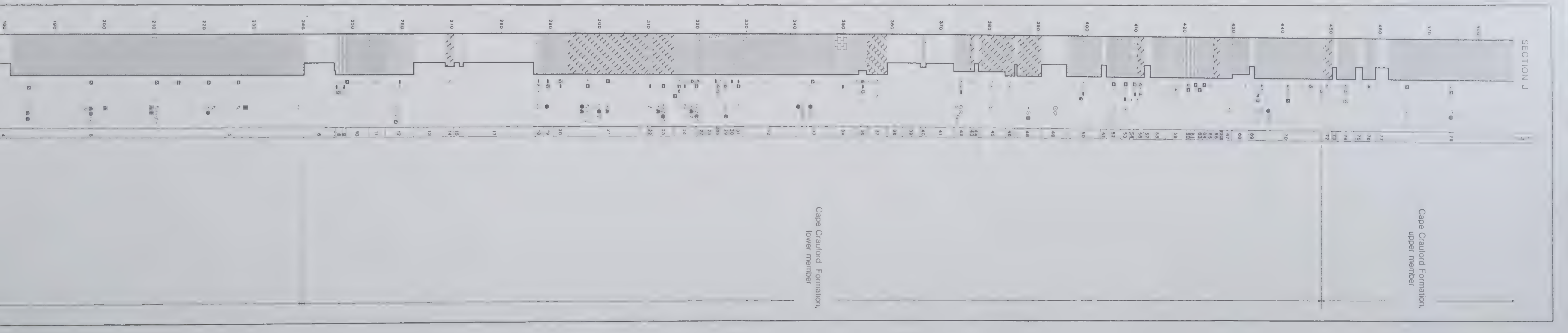
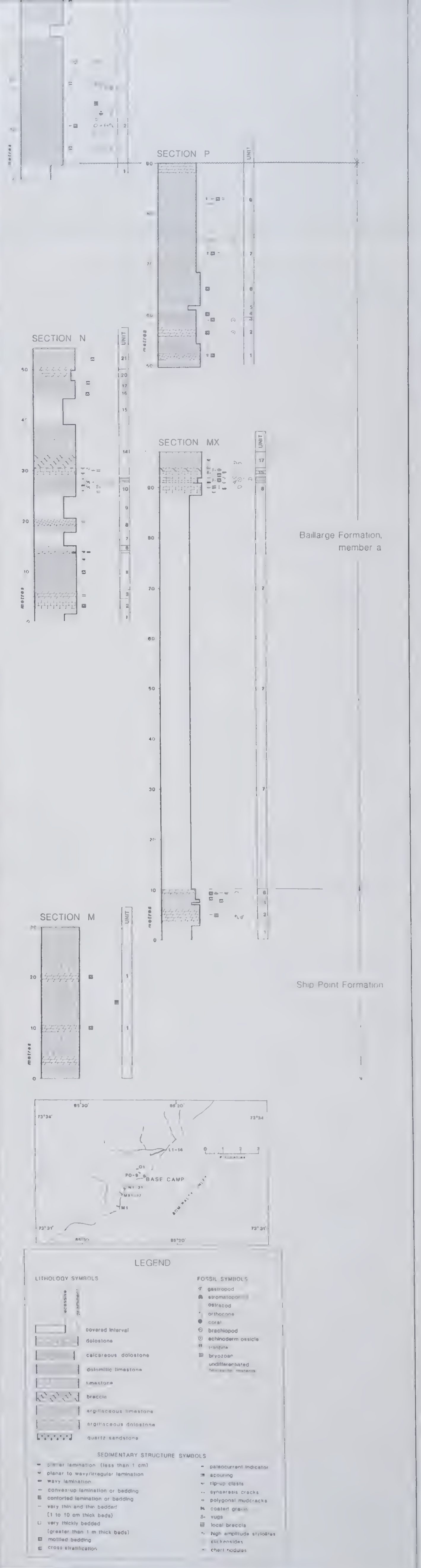
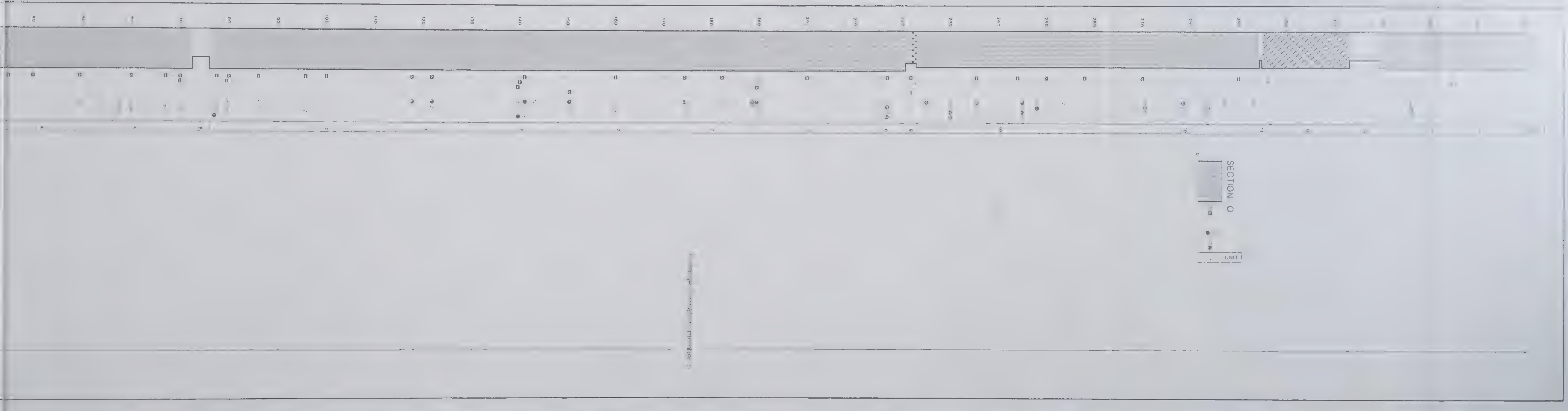
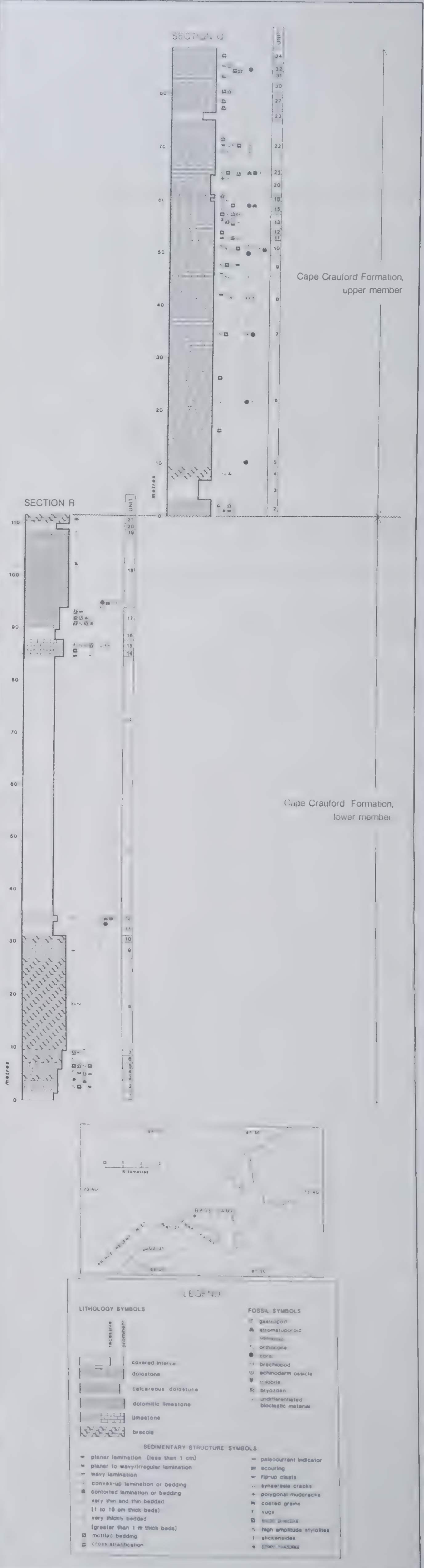

SECTION J
Cape Crauford Formation, lower member
Cape Crauford Formation, upper member


SECTION P
UNIT
metres
SECTION N
UNIT
metres
SECTION MX
UNIT
metres
Baillarge Formation,
member a
Ship Point Formation
SECTION M
UNIT
metres
73°34'
85°30'
85°20'
L1-14
0 1 2 3
Kilometres
O1
PO-8
BASE CAMP
N1 21
MX1-17
M1
73°31'
LEGEND
LITHOLOGY SYMBOLS
recessive
prominent
covered interval
dolostone
calcareous dolostone
dolomitic limestone
limestone
breccia
argillaceous limestone
argillaceous dolostone
quartz sandstone
FOSSIL SYMBOLS
gastropod
stromatoporoid
ostracod
orthocone
coral
brachiopod
echinoderm ossicle
trilobite
bryozoan
undifferentiated
SEDIMENTARY STRUCTURE SYMBOLS
planar lamination (less than 1 cm)
planar to wavy/irregular lamination
wavy lamination
convex-up lamination or bedding
contorted lamination or bedding
very thin and thin bedded
(1 to 10 cm thick beds)
very thickly bedded
(greater than 1 m thick beds)
mottled bedding
cross stratification
paleocurrent indicator
scouring
rip-up clasts
synaeresis cracks
polygonal mudcracks
coated grains
vugs
local breccia
high amplitude stylolites
slickensides
chert nodules

[illegible]

To accompany 1987 Ph.D. thesis by P. Nortwich


SECTION O
UNIT I



SECTION Q
UNIT
34
32
31
30
27
23
22
21
20
18
15
13
12
11
10
9
8
7
6
5
4
3
2
metres
0
10
20
30
40
50
60
70
80
Cape Crauford Formation,
upper member
SECTION R
UNIT
21
20
19
18
17
16
15
14
11
10
9
8
7
6
5
4
3
2
metres
0
10
20
30
40
50
60
70
80
90
100
110
Cape Crauford Formation,
lower member
0
Kilometres
73°40'
BASE CAMP
87°30'
LEGEND
LITHOLOGY SYMBOLS
recessive
prominent
covered interval
dolostone
calcareous dolostone
dolomitic limestone
limestone
breccia
FOSSIL SYMBOLS
gastropod
stromatoporoid
orthocone
coral
brachiopod
echinoderm ossicle
trilobite
bryozoan
undifferentiated bioclastic material
SEDIMENTARY STRUCTURE SYMBOLS
planar lamination (less than 1 cm)
planar to wavy/irregular lamination
wavy lamination
convex-up lamination or bedding
contorted lamination or bedding
very thin and thin bedded
(1 to 10 cm thick beds)
very thickly bedded
(greater than 1 m thick beds)
mottled bedding
cross stratification
paleocurrent indicator
scouring
rip-up clasts
synaeresis cracks
polygonal mudcracks
coated grains
vugs
high amplitude stylolites
slickensides

Figure 1: Sections Q &R, Peak Valley

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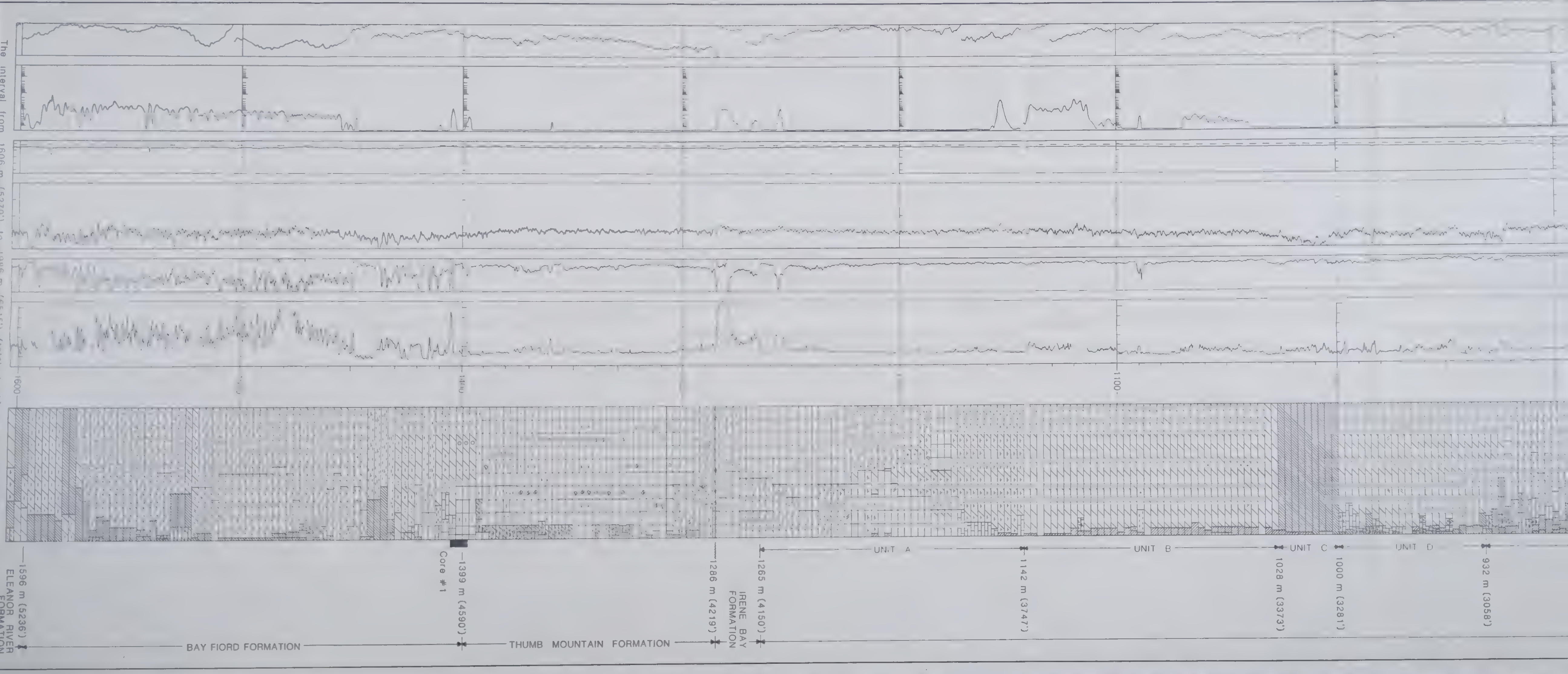
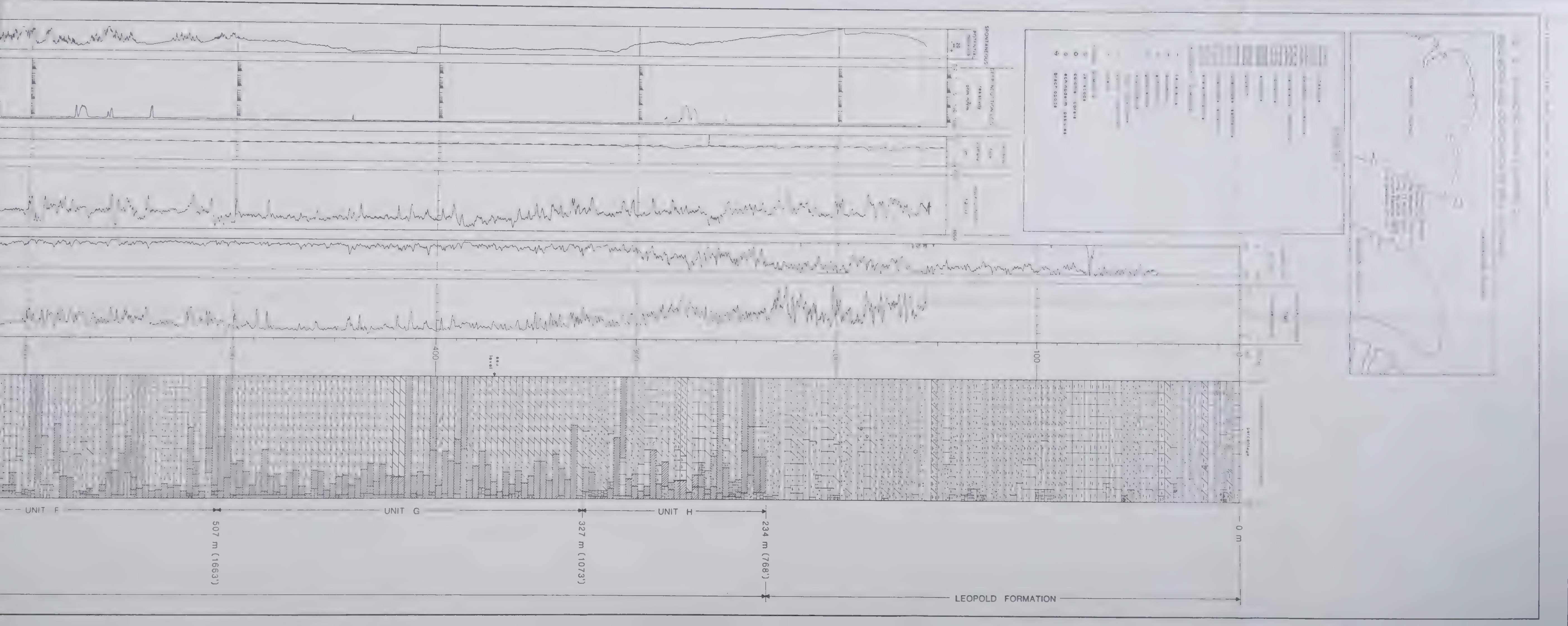
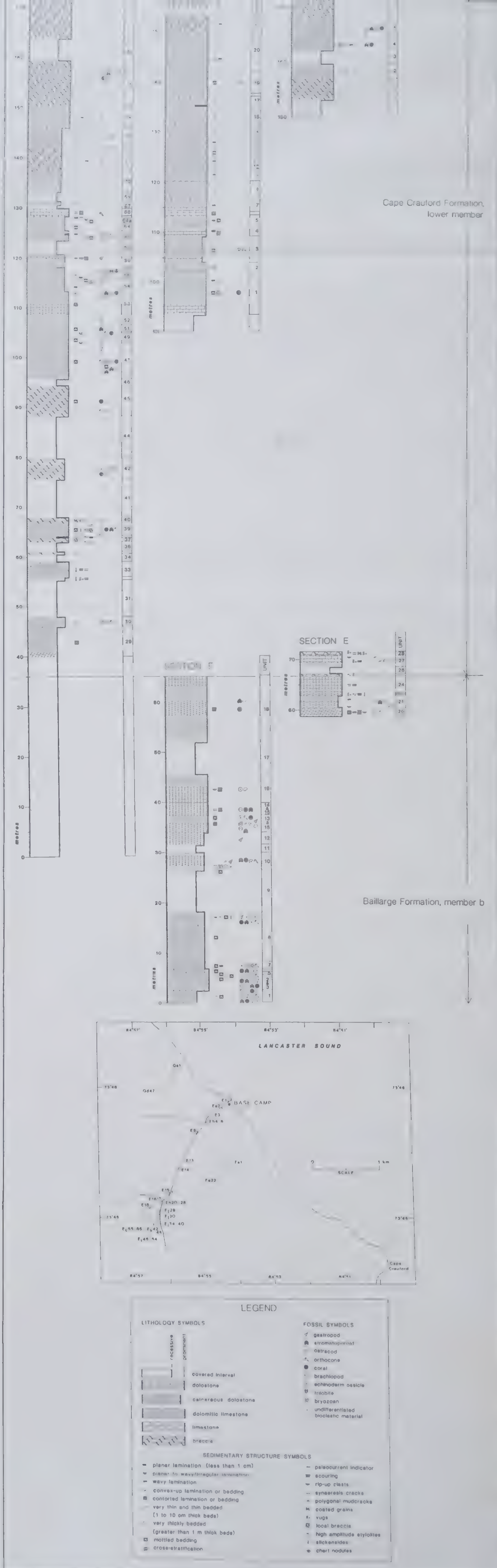


The interval from 1606 m (5270') to 1986 m (6515') (total depth) was not described.


SPONTANEOUS POTENTIAL
400
100
0
sea level
UNIT F
UNIT G
UNIT H
507 m (1663')
327 m (1073')
234 m (768')
0 m
LEOPOLD FORMATION



metres
SECTION G
SECTION F
SECTION E
UNIT
Cape Craufurd Formation, lower member
Baillarge Formation, member b
LANCASTER SOUND
BASE CAMP
SCALE
0
1 km
Cape Craufurd
84°57'
84°55'
84°53'
84°51'
73°46'
73°45'
LEGEND
LITHOLOGY SYMBOLS
recessive
prominent
covered interval
dolostone
calcareous dolostone
dolomitic limestone
limestone
breccia
FOSSIL SYMBOLS
gastropod
stromatoporoid
ostracod
orthocone
coral
brachiopod
echinoderm ossicle
trilobite
bryozoan
undifferentiated bioclastic material
SEDIMENTARY STRUCTURE SYMBOLS
planar lamination (less than 1 cm)
planar to wavy/irregular lamination
wavy lamination
convex-up lamination or bedding
contorted lamination or bedding
very thin and thin bedded (1 to 10 cm thick beds)
very thickly bedded (greater than 1 m thick beds)
mottled bedding
cross-stratification
paleocurrent indicator
scouring
rip-up clasts
synaeresis cracks
polygonal mudcracks
coated grains
vugs
local breccia
high amplitude stylolites
slickensides
chert nodules

Figure E: Sections E,F & G, Cape Craufurd

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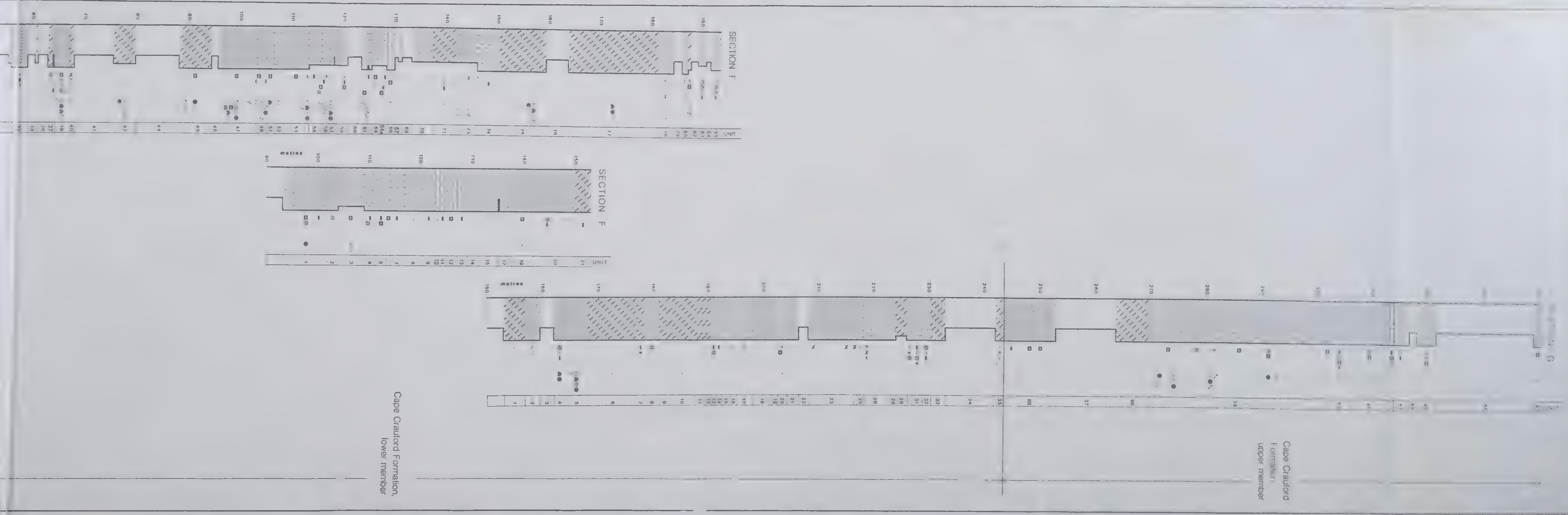
SECTION F
UNIT
metres
SECTION F
UNIT
metres
G
Cape Crauford Formation, lower member
Cape Crauford Formation upper member

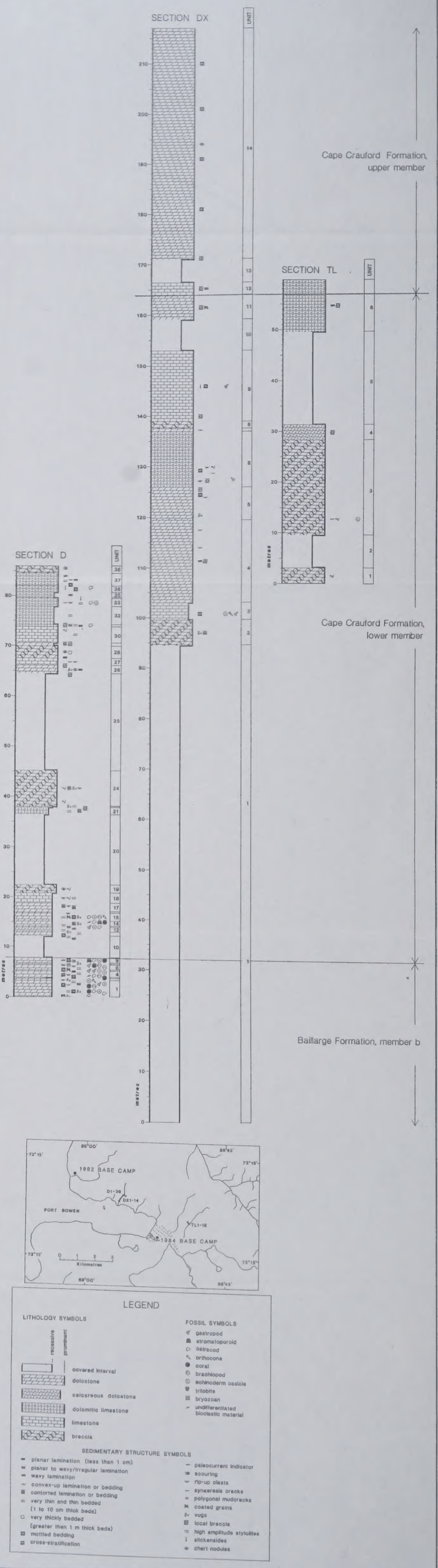
SECTION DX
UNIT
SECTION TL
UNIT
SECTION D
UNIT
metres
Cape Crauford Formation, upper member
Cape Crauford Formation, lower member
Baillarge Formation, member b
73°15'
89°00'
88°45'
73°15'
1982 BASE CAMP
D1-38
DX1-14
PORT BOWEN
TL1-16
1984 BASE CAMP
73°12'
0 1 2 3
Kilometres
73°12'
89°00'
88°45'
LEGEND
LITHOLOGY SYMBOLS
recessive
prominent
covered interval
dolostone
calcareous dolostone
dolomitic limestone
limestone
breccia
FOSSIL SYMBOLS
gastropod
stromatoporoid
ostracod
orthocone
coral
brachiopod
echinoderm ossicle
trilobite
bryozoan
undifferentiated bioclastic material
SEDIMENTARY STRUCTURE SYMBOLS
planar lamination (less than 1 cm)
planar to wavy/irregular lamination
wavy lamination
convex-up lamination or bedding
contorted lamination or bedding
very thin and thin bedded (1 to 10 cm thick beds)
very thickly bedded (greater than 1 m thick beds)
mottled bedding
cross-stratification
paleocurrent indicator
scouring
rip-up clasts
synaeresis cracks
polygonal mudcracks
coated grains
vugs
local breccia
high amplitude stylolites
slickensides
chert nodules

Figure D: Sections D,DX and TL, Port Bowen

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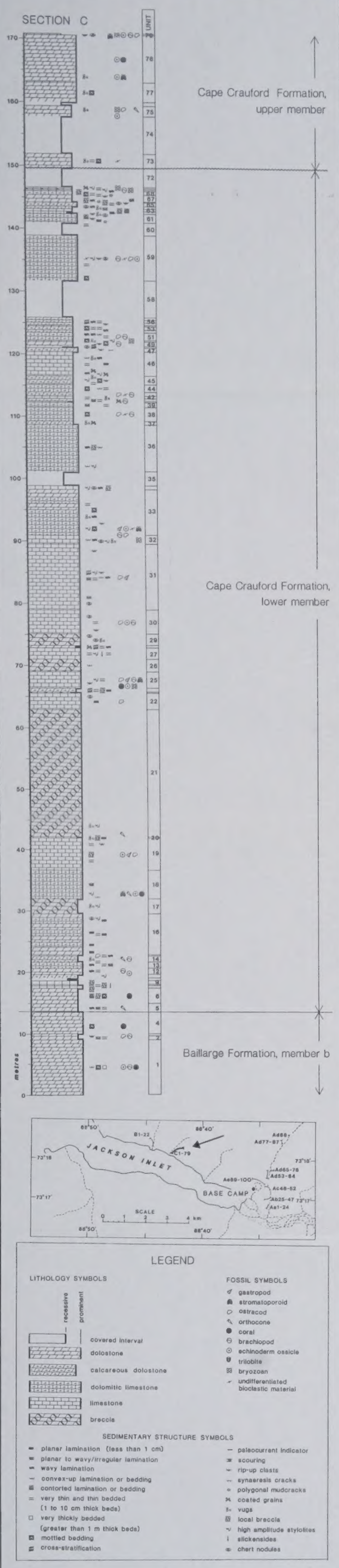
SECTION C
UNIT
metres
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
Cape Crauford Formation, upper member
Cape Crauford Formation, lower member
Baillarge Formation, member b
88°50'
88°40'
B1-22
C1-79
JACKSON INLET
Ad88-
Ad77-87
73°18'
73°17'
Ad65-76
Ad53-64
Ae89-100
Ac48-52
BASE CAMP
Ab25-47
Aa1-24
SCALE
0
1
2
3
4 km
LEGEND
LITHOLOGY SYMBOLS
recessive
prominent
covered interval
dolostone
calcareous dolostone
dolomitic limestone
limestone
breccia
FOSSIL SYMBOLS
gastropod
stromatoporoid
ostracod
orthocone
coral
brachiopod
echinoderm ossicle
trilobite
bryozoan
undifferentiated bioclastic material
SEDIMENTARY STRUCTURE SYMBOLS
planer lamination (less than 1 cm)
planer to wavy/irregular lamination
wavy lamination
convex-up lamination or bedding
contorted lamination or bedding
very thin and thin bedded (1 to 10 cm thick beds)
very thickly bedded (greater than 1 m thick beds)
mottled bedding
cross-stratification
paleocurrent indicator
scouring
rip-up clasts
synaeresis cracks
polygonal mudcracks
coated grains
vugs
local breccia
high amplitude stylolites
slickensides
chert nodules

Figure C: Section C, Jackson Inlet

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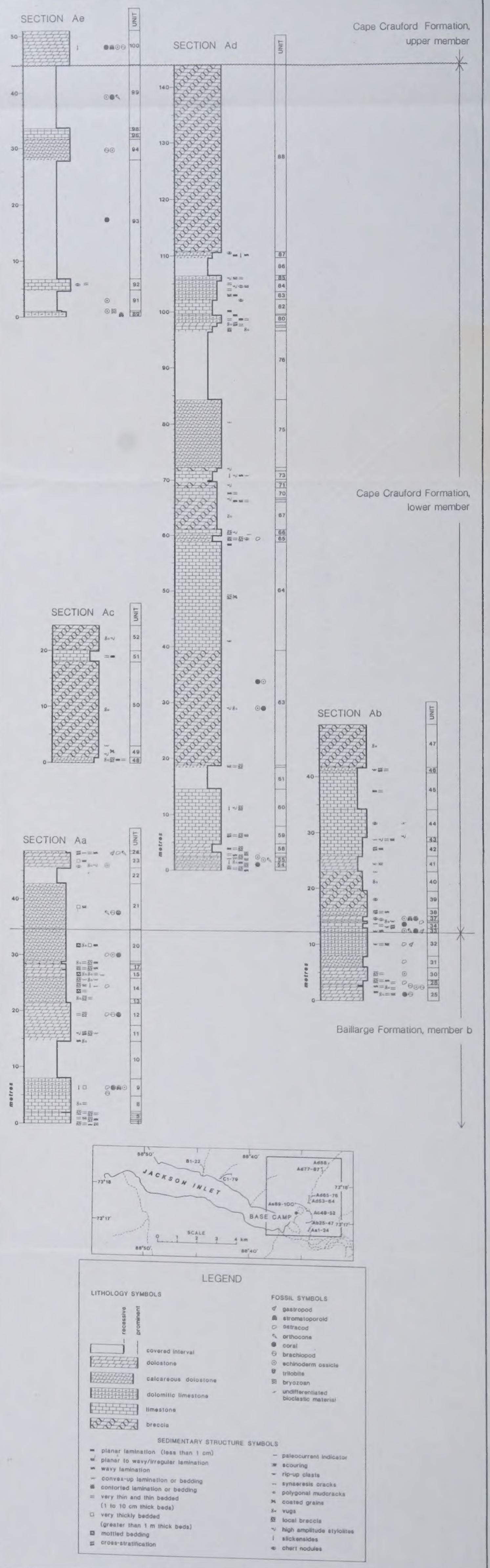

Figure A: Section A, Jackson Inlet

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